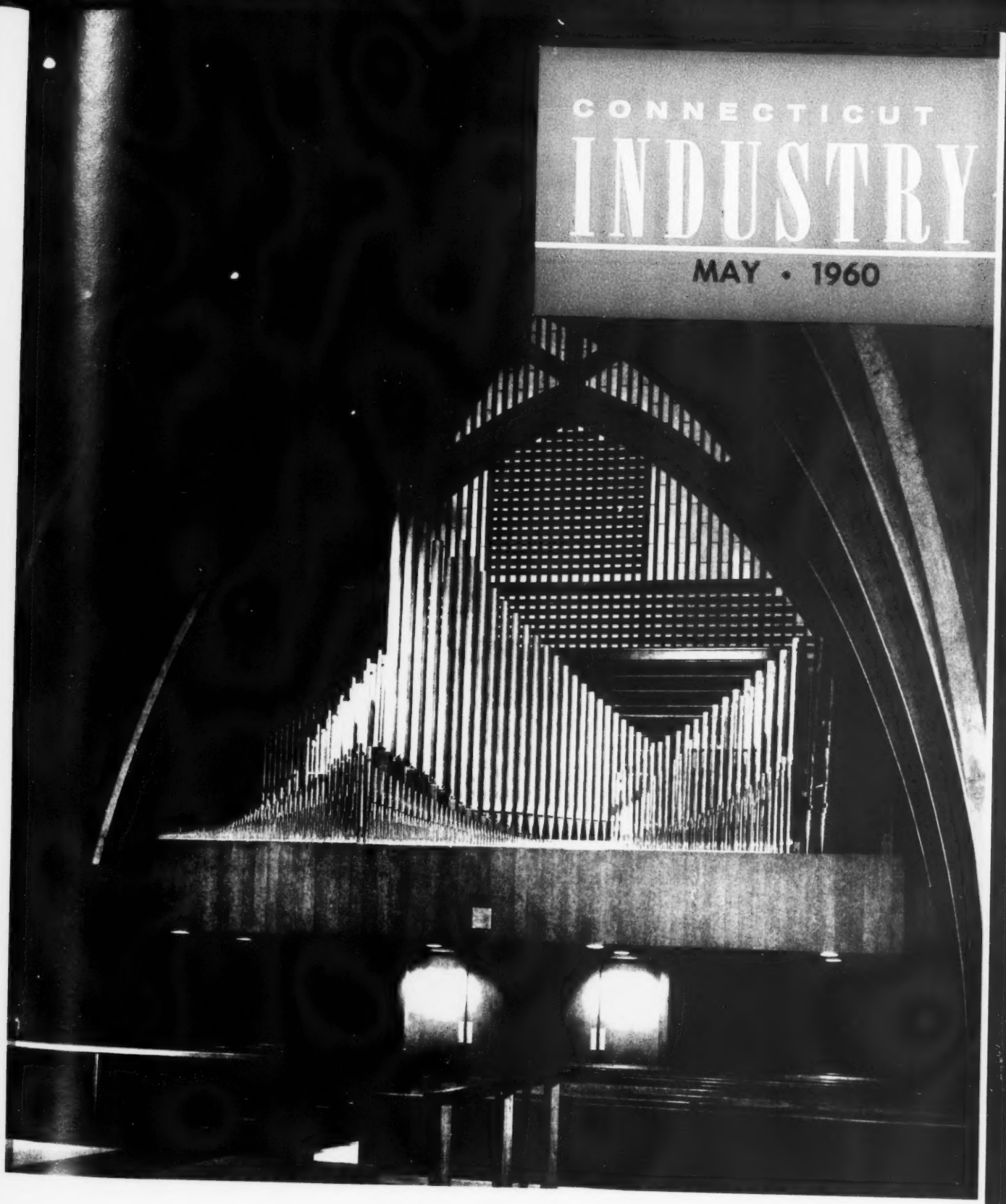
CONNECTICUT
INDUSTRY
MAY • 1960



SCIENCE AIDS ART

Page 6

Take the Handcuffs off your "Star Salesman"!

See how Long Distance telephone service can boost sales while cutting sales costs

Whatever business you're in, a SYSTEMATIC use of out-of-town calling should be part of your sales program. It can effectively help you obtain new customers . . . keep present customers sold . . . revive inactive accounts.

Dozens of helpful plans and techniques — all utilizing Long Distance — have been worked out by our specialists in this field. These are specific suggestions that have already proved their value in building profits for a wide variety of businesses. (A few of these businesses are listed below.)

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These Businesses Found the "KEY" That Unlocks Extra Sales:

A PARTS DISTRIBUTOR invites out-of-town customers to telephone their orders collect. In seven months, the plan has brought in $17,798 in sales. Sales cost: less than 2%.

A FARM EQUIPMENT WHOLESALER telephones out-of-town customers to thank them for their orders. Four of these calls, costing $4.60, brought $1,180. in additional sales.

A MANUFACTURER OF CUSTOM EXTRUSIONS uses the phone to build good will with out-of-town customers. Calls costing only $14.85 produced $1,821. in orders in just one month.

THE SOUTHERN NEW ENGLAND *Telephone* COMPANY

CONNECTICUT
INDUSTRY

MAY • 1960

VOLUME 38 NUMBER 5

THIS MONTH'S cover photo shows the new Austin organ in the Church of the Redeemer, Baltimore. This church is of outstanding contemporary architecture. The organ is located in the South transept and the speaking pipes of the organ are exposed in a functional design.

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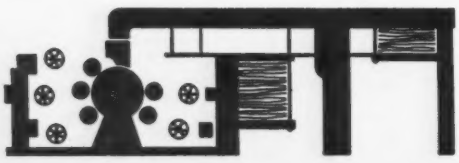
So TODAY business and industry are using color more extensively and more effectively than ever before . . . in their products, in their packages and displays, and in every kind of printed presentation. In a recent issue of "Modern Packaging," for example, advertisers used more than twice as many full-page color ads as they did black-and-white.

To keep pace with this ever-increasing use of color by advertisers and publishers, Hildreth Press recently installed a 64-page two-color web magazine press and a five-color sheet-fed rotary press. These two units, added to our 17 other two-color presses, provide a complete range of precision color printing equipment crewed by experienced pressmen.

If your catalog, house organ and/or advertising materials can profit from the tremendous added appeal of color we will welcome an opportunity to discuss the possibilities with you.



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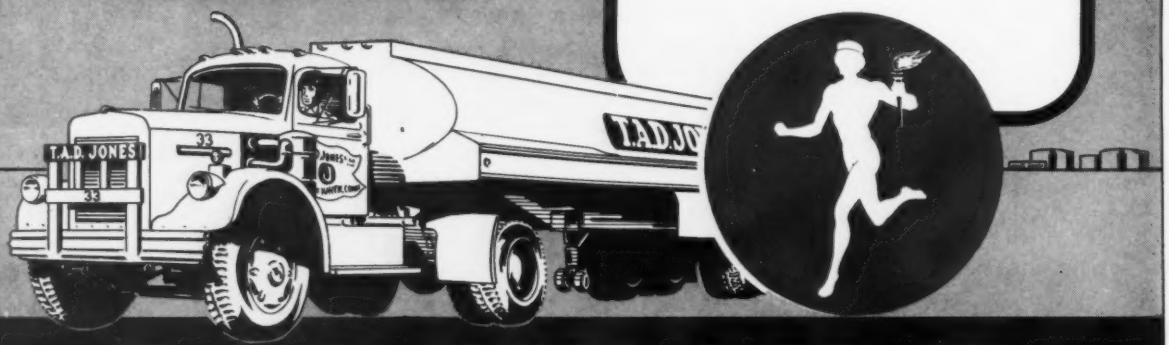

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Will We Have A Choice In November?

♦ WE like to believe that we have a two-party system. That the parties have basic differences of political philosophy. That we have a clear cut choice of the type of government we want. We like to believe that the candidates have sincere and resolute convictions reflecting those philosophies. That the candidates are willing to rise or fall on those convictions. That the candidates do believe it is more important to stand firm in such resolutions than to be elected.

Those are the things we like to believe. They are also the things the candidates would have us believe. Or are they?

As the National Conventions draw near, we begin to have serious doubts that any real choice will be ours in November. It begins to appear we are drifting back to the condition which existed for so many years. The condition wherein we are promised more for less and the difference in parties is in degree, and then only slight. The era in which nationalization was the byword and all ills were better cured by the Federal Government. The era in which freedom and free enterprise were rejected for the "welfare state."

It is difficult, indeed impossible, for many of us to comprehend the lack of perception and courage of those in command of the fortunes of our political parties. Their failure to recognize that the vast majority of the American people would like to be given the opportunity of saying "no" to the whole idea of statism.

Eight years ago a vigorous campaign was waged on just that premise. The premise that we wanted to get things back under local control. The premise that the expanding arms of the federal octopus should be amputated. That the states, commerce, industry and the people should again be free to thrive and wrestle with their own problems. That we wanted not more but less of the suffocating paternalism being cultivated by federal bureaus and office seekers.

Out of that campaign came the decision of the people refreshing as a cool summer breeze. Once again we were to be free. But it takes a strong man to withstand the constant pressure of bureaucracy.

At first things went well enough. Gradually, however, the departments have been wearing down the resistance and firm resolve with which the administration began. Individuals whose philosophy and aim is to increase the domination of the governmental agencies over individual freedom and opportunity have crept in and exert greater influence. Administrative departments have adopted rules and regulations based upon a policy of encroachment. A policy whose effect, and apparently whose purpose, is to make their position more secure by stifling opposition. The direct result of much of this indirect oppression reaches a point affecting the principle of freedom of speech. Speaking out on matters of governmental policy and philosophy is no longer free for some people. Whether the purpose of this move is to discourage all criticism of governmental philosophy and eliminate efforts to influence it is immaterial. It has that result.

In other areas and departments rulings have been equally oppressive. But the most insidious maneuver has been the continued indoctrination of the idea that the federal government is directly responsible for the care and comfort of all the people. That individual initiative, responsibility and accomplishment are like a plague.

There is a hopeful reluctance on the part of a few to participate in that movement. They are hard put to withstand the onslaughts. As things appear at present, there will be few, if any, of differing opinions remaining in positions of decision when the choice is presented to us in November.

However, we can do something to make it known we would like a choice in November. We can make ourselves heard now while the platforms are being built. If we protest loud and long on the spread of the welfare state and object to planks supporting it we may cause some aspirants to give it another look. We will also give encouragement and strength to those who are of our opinion but whose voices are given so little heed. It is too much to hope we will have any great influence on the actual planks adopted. Nevertheless, it may result in some modification of the trend and make our choice somewhat more meaningful. After the candidates are selected is too late—much too late.

The same holds true of state and local candidates. We must let our party, or if we style ourselves as independents let both parties, know our feelings now. The issues and our choice may not even then be as clear cut as we would like. But if enough of us make our feelings known now it must necessarily have a discernible effect. Then we may still have some choice in November.

Voicing reed pipes—there are two types of organ pipes, flue pipes which sound on the principle of a whistle, and reed pipes which are sounded by a reed. Shown is the reed voicer, giving the correct curve to the reed tongue.

Pipemaking—Each part is cut from a flat sheet, rounded and shaped by hand on mandrels and jointed with a neat soldered seam.

Melting and preparing the metal for casting. The metal used is a mixture of tin and lead. 50% of each gives a mottled appearance known as spotted metal.

Casting pipe metal is an ancient process. The metal is cas on a stone bed, which is covered with a linen tick drawn tightly over the casting surface.

Voicing flue pipes—when the pipes are first made they are silent. Giving the correct speech, tone and pitch is the "Art of Voicing".

SCIENCE AIDS ART

EDITOR'S NOTE: No musical instrument, with the possible exception of the harp, has the capability of producing such a broad range of tonal qualities as the pipe organ, and no other instrument can play on human emotions so successfully from setting a mood of sadness by a funeral march to lifting the human spirit to a mood of high hope with a wedding or other sprightly march. This is the story of how science has aided art in the production of organs —probably Connecticut's oldest craft —at the Austin plant in Hartford for the past 61 years. A reading of it should increase one's admiration for the infinite patience and artistry required to create an Austin Organ, said to have no peers in America and only two companies that are competitors in the high quality market.

■ LOCATED on Woodland Street in Hartford, Austin since 1899 has been building high quality pipe organs. The Austin story is essentially one of the Old Company and the New. The Austin Organ Company was in business from 1899 to 1936 and Austin Organs, Inc., its successor from 1936 to the present time. Austin has always been associated with the authentic pipe organ. Never at any time has the company contemplated the manufacture of electronic instruments.

Background of the Founder

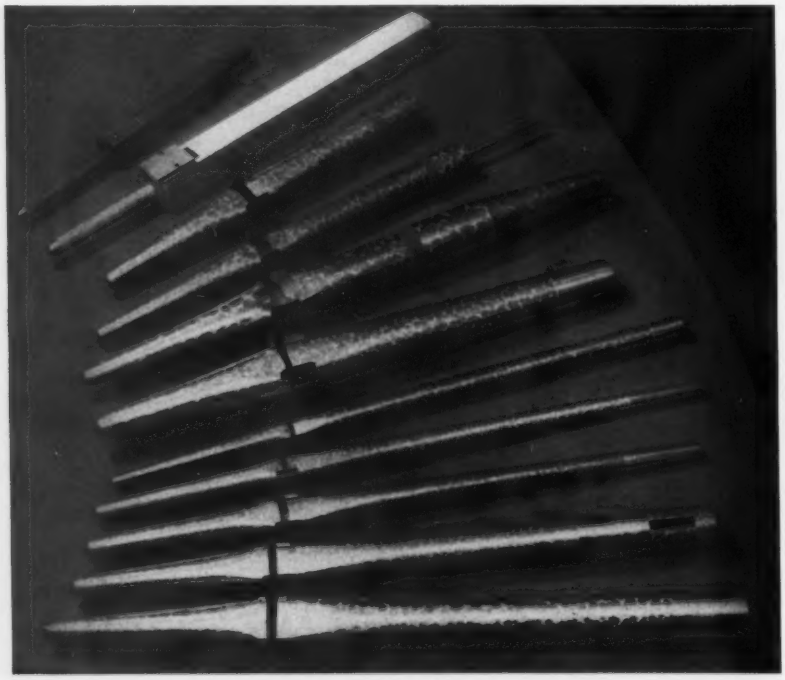
The Austin firm began and has progressed on the inventive genius and mechanical skill of its founder, John Turnell Austin. He was born in Northamptonshire, England, May 16th, 1869, and exhibited mechanical ability at an early age. When quite young he was sent to school in London where he sang in the choir of St. Michael's & All Angels. This experience gave him an early acquaintance with the organ and church music. His mechanical aptitude was to some extent inherited from his father, a gentleman farmer, who built several pipe organs as a hobby. The farm was mechanized to an unusual extent for the period and possessed well equipped workshops where

A small section of the pipes in a completed instrument. Each pipe is of different diameter and length. Each set of pipes are different in shape. The length of all can be varied. By this means the pipes are tuned.

Various types of reed pipes—the sound is generated by the reed fitted at the base of the pipe. Some types of reed pipes are imitative of the orchestral instruments, such as the Clarinet, Oboe, and Trumpet, etc.

they repaired their own farm implements. From boyhood, J. T. Austin lived in an atmosphere sympathetic to the development of his mechanical and musical talents.

In 1889 J. T. Austin came to the United States. He was first employed by a Detroit organ builder, where he soon advanced to a position of responsibility. Much of his time was spent in the field installing organs and tracing mechanical defects. He had ample opportunity to become acquainted with the weaknesses of the instruments being built at that time. Unsteady air pressure to the pipes resulted in pitch variation and poor tone. Constant mechanical defects due to the swelling and shrinkage of the wood in the organ chests, through variation of humidity, caused the delicate mechanisms to go out of adjustment and required much attention in order to keep them functioning properly. The third outstanding difficulty was the inaccessibility of the mechanism. A vast amount of work was required to remove the screws and panels to reach the mechanism for repair and adjustment.



Various types of flue pipes—the shape of the pipes and voicing treatment given determines the final tonal results. Many different tonal qualities are required in the organ—hence the many different shapes of the pipes.

While engaged in this work, Mr. Austin gradually developed the idea of the Austin Universal Chest and air chamber, which resulted in a complete steady wind supply to the pipes. Expansion joints gave entire immunity to defects caused by variation of humidity. The air chamber permitted a man to walk inside the organ and make adjustments without removing a single screw. These basic ideas formed the foundation upon which the success of the Austin firm was built.

Patents were secured in 1893, the year Basil G. Austin, younger brother of J. T. Austin, came to the United States and joined forces with him. The patents were offered to a number of organ builders, but many were skeptical as to whether this new and radical departure from all previous organ construction could succeed. Eventually arrangements were made with a Detroit company. The first instrument was built on this system for a Detroit church in 1893. During the next five years twenty-eight organs were built in Detroit. In 1898, while the first large organ sold in the East, was being installed in the Fourth Congregational Church in Hartford, Connecticut, the Detroit plant was totally destroyed by fire, never to be rebuilt.

The Move To Hartford

The favorable comment created by the three manual instrument installed in the Fourth Congregational Church led to the interest and support of certain businessmen associated with the church, who persuaded the Austin brothers to locate in Hartford. In 1899 premises were leased on Woodland Street with the right to purchase. Later the propery was purchased. As time passed and the business increased, several considerable additions were made to the plant. Through a constant and steady growth the company became wide known throughout the country. By 1910 it had established an excellent reputation for the constant reliability of its organs. J. T. Austin continued to develop his mechanisms and to design tool and machines to improve production, all of which were made in the company's own machine shop under Mr. Austin's supervision. Ranging from relatively simple tools to quite elaborate machines, they were

made quickly and at a lower initial cost. It is for lack of this equipment that competitors have never successfully copied the Austin mechanisms.

In 1917 J. T. Austin was awarded the Edward Longstreth Medal of Merit by the Franklin Institute for his invention of the Universal Chest and for other valuable improvements to the pipe organ. The company continued to prosper and built many of the country's largest and most famous Cathedral and church organs, all of which added tremendously to the prestige of the company.

Passing of the Old—Start of the New

The depression of 1929 and the years following had a serious effect on the pipe organ business. Sales fell to only a fraction of the volume in prosperous years. As a consequence of this and because of the aging of the officers of the company, it was decided in 1935 to discontinue building organs. But in 1936, before the liquidation of the Old Company was completed, a new corporation was formed—Austin Organs, Incorporated. Most of the Old Company's assets, including the buildings and special machinery, was secured by the New Corporation. The Austin Organ Company terminated its affairs and Austin Organs, Inc., carried on with a new set of officers, all of whom had held responsible positions with the original firm. J. T. Austin had no children, but a son of B. G. Austin became one of the Directors. A nephew, Frederic B. Austin, became its President.

Although the New Company had a modest beginning, its growth has been steady from the start, with the exception of the years during World War II when organ building was brought to a standstill by the Federal Government. Following the war a flood of business descended upon the company. Every year since it has shown a substantial increase in sales and the volume of production.

Organ Building—An Ancient Craft

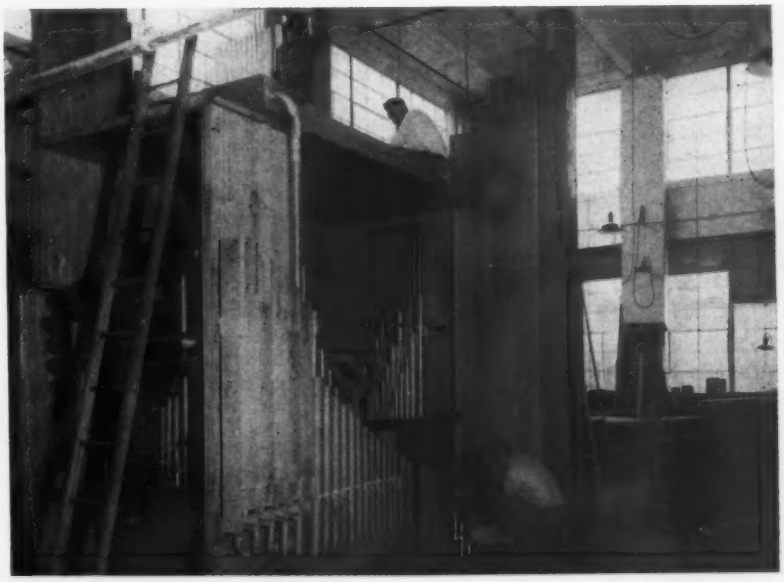
Organ building is one of our most ancient crafts, comparable only with such arts as that of the goldsmiths and silversmiths. The early history of the organ is surrounded by mystery and fable. It is mentioned in the very oldest of books and manuscripts. The origin of the musical scale and the organ are closely linked and it is believed developed together step by step. The Romans used organs in their various festivals and celebrations. Because of the organ's association with pagan Rome, the Church opposed its use in the service for many years. The first recorded use in the church was in Spain in the 5th century A.D. Its use soon spread throughout Europe and to England, where in 951 A.D., an organ of some 400 pipes was built by the Benedictine Monks in Winchester Abbey. This organ is described at some length by one of the brethren in an ancient manuscript.

The history of the organ, from its crude beginnings to its present magnificence, has been in the main, one of steady development. Throughout the centuries certain outstanding builders have made significant contributions which have given emphasis to the development. Such a man was John T. Austin and the organization he founded.

Organ building blends many skills and can be roughly divided into two parts, the mechanical and tonal. It is somewhat unique in that it combines both art and science. On the mechanical side, that is, the physical construction and mechanism to play the pipes, every advantage is taken of what science has to offer in tools, machinery and modern materials. Small parts are

(*Continued on page 42*)

Console Room—here the many hundreds of parts of the consoles are assembled. The console is the control center of the organ. At a touch of the finger the organist has the entire resources of the instrument at his command.



Erecting Room—here the many parts of the instruments are assembled and erected before shipment to the church or auditorium. The picture shows a small organ in the course of construction.

We Need to Improve Industrial Selling

By KENNETH C. SHENTON, President
K. C. Shenton Company, Hartford

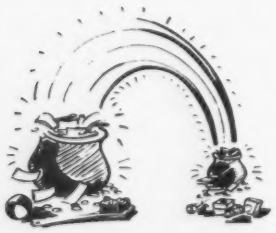
Part II

An Unusual Amount of Sales Skill Necessary

■ IN Part I of this article in the April issue of CI, we made a statement that industrial selling requires an unusual amount of skill.

Industrial purchasing represents approximately two-fifths of the national gross product. Approximately three-fifths of national gross product is consumer sales. With these figures in mind and the fact that over 10 billion dollars is spent on advertising annually—it takes approximately 8.3 billion dollars to move the total consumer products . . . but only 1.7 billion to move all industrial products.

This tends to show a terrific efficiency attributable to industrial selling specialists. But, it also points up the terrific possible rewards of expert industrial selling in an advertising area that definitely attracts a great deal less talent and time and thought than the ultra competitive consumer 8.3 billion dollars of sales promotion money.



What Is Industrial Marketing?

Industrial selling has become, and is continuing to compound into, an increasingly complex business. Many, in trying to solve their sales problems gravitate to all embracing words such as "industrial marketing" or "market research." These terms are supposed to describe solutions that give the industrial salesman the answer to all his sales problems and a direction to all his sales efforts.

KENNETH C. SHENTON

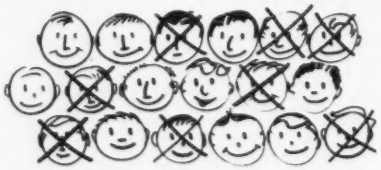
In some areas, successful marketing is mainly horse-sense. It is easy to apply in many product groups. Almost anyone can outline a market plan as it applies to snow shovels and lawn mowers . . . BUT, how about drills, nuts and bolts, rubber hose, or wire and the thousands of technical products that have no clearly defined market? There is also a growing list of products that have so many markets and so many future potential markets that present sales figures and present customers give little help in planning for the future. Competitive product improvement can also obsolete the best conceived current marketing plans.

Marketing is further complicated when we try to communicate to a carefully defined potential industrial customer group and consider that many of the prospects we have defined are almost impossible to reach through conventional selling channels. Many trade publications find it economically profitable to limit their circulation to a 35,000 to 45,000 maximum circulation (audience). Very often this circulation grows much slower than the market does.

The industrial audience has grown from 55½ million workers and over 4 million business management people in 1940 to almost 68 million workers and over 7 million business management people in 1959. Even after careful definition of a market, we find that constant revision may be necessary to keep sales efforts directly related to change.

How to Define An Industrial Market!

The majority of industrial management and sales people ambitious to make sales . . . to ring that cash register . . . are inclined to think of their income producing activity entirely in terms of current income. In other words, if an investment of so many dollars does not produce an immediate return with expected dividend—the sales promotion is unproductive. This, of course, is not true. Neither is it sound to project future sales, these days, on past performance magnified by growth of the markets sold yesterday.



Both of the foregoing work adequately under suitable conditions but modern marketing requires thorough market definition in a much broader concept than imagined a few short years ago.

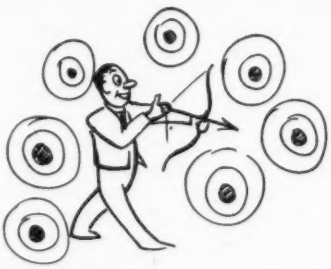
Marketing by identifying job titles or plant S.I.C. (Standard Industrial Classification) numbers and linking these classifications with a few case histories that tend to prove that your customers match these specific job

titles *usually results in a mathematical set of statistics that prove what your company did saleswise—last year or before that.*

In the modern competitive, speedy-change industrial society that we now have to sell to survive . . . this type of marketing often courts disaster.

Is there another way? There certainly is, with much less guess work. No mathematical, statistical case history formula this. How then, do you define an industrial market? The answer: call in some modern marketing experts. This, briefly, is the type of market information they can contribute:

Question: How do we market a full line of milling cutters that are sold through industrial distributors? Where do we start? Who buys them? What is their job title? How much stock should distributors carry?



The answer seems obvious—but it took an expert to uncover it.

First, milling cutters are used on milling machine tools, so take a census of milling machines now owned and operated. Then, follow through on companies selling milling machines—how many, to whom? From this beginning stems most of the marketing answers—how many distributors, how much stock, even, what specific items to stock, where your market growth can be expected, where sales should be pushed and many others.

Question: How do we explore new markets for miniature precision ball bearings? This is a very competitive, fast moving business involved in almost every new development born this year or to come.

Without following any false trails, modern, sensible marketing will specifically pinpoint the mind of the nation's design engineers.

This specific, collective mind is the target for the entire new market promotion because these design engineers will be on hand at the conception of what's new tomorrow. If they are pre-sold on your product, your product will be there too!

Foolproof, simple, it can be, and, the same modern marketing methods can save millions of trial and error sales promotion dollars aimed at the wrong target or spent with no predetermined, specific target in mind.

Sales Dominance Requires All Sales Tools

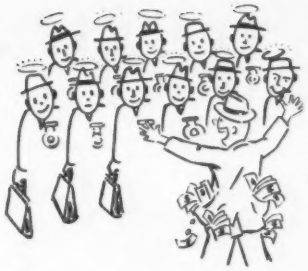
How do we sift, shuffle and separate 75 million industrial people? How do we define the ones that have a need, a potential and also the financial stability and growth possibilities to become our good customers and insure our growth and prosperity? When we do define the individuals we intend to sell—how do we hold them still until we have sold them? An advertising magazine survey reveals that 600 out of every 1000 key men in industry have changed their jobs, titles or companies within the past 12 month period.

These are surely sales problems larger than any of our predecessors

have ever solved and ones that even today are being solved by most companies only partially.

We know, for instance, that almost 64% of industrial sales calls are made on the wrong man. That leaves only 36% of the calls where those contacted have the authority to buy even if they are sold! The average cost of these sales calls to the manufacturer is over $20.00 each, and that cost is rising steadily.

As industrial selling problems grow,



what do we do? . . . Profits are shrinking for many because the Sales Department, the only income producing department in most companies, and their number one sales tool—advertising—is not operating at top efficiency! With management's help they can sell more efficiently in these areas:

1. Don't ever assume that your Sales Organization is "built." It should always be "building"! This is an area where you can't afford to relax . . . ever.
2. Ride herd on sales service, prompt delivery, constantly improve product quality and maintain a realistic, (but not lower) competitive price.

NOTE: To the trained industrial purchaser a lower price often advertises an inferior product or a deficiency in salesmanship.

3. Invest in advertising that really cuts the cost of selling. This means:
   a. No matter what size space is used to carry the sales message—employ the proven skills that pro-

duce a greater audience for each dollar expended.
   b. Evaluate advertising not entirely in terms of audience and

(*Continued on page 47*)

CORPORATE POWER:

Does it Restrict Industrial Liberty or Employees, Owners, Customers?

Customer "restrictions" come about, some people say, when "powerful" ads force unwilling customers to buy products they don't want. This ridiculous charge defies all logic.

Editor's Note—Although this copyrighted article may not be reprinted without specific permission of the Public Relations Department, E. I. du Pont de Nemours & Co., Wilmington, Delaware, the facts in it so effectively debunk many of the allegations made against corporations that they may be used effectively by management representatives in either formal talks or informal word-of-mouth discussions with small groups or individuals.

■ ONE of the most useful and prominent landmarks on the American scene for the last century or so has been the industrial corporation. Since it is both an employer and a producer, its actions affect practically every person in the land. Because of this, it has been under continual study and evaluation by social critics.

At one time, the social critics thought industrial corporations were a social blight because they were altering the rural and pastoral nature of American colonial life. Another time, corporations were condemned because they were too "unfeeling." The opposite was also true: corporations were accused of being too paternalistic. More recently the industrial corporation has been accused of being too big.

Today, the social critics have again changed their focus. Now they are addressing themselves to the social nature of the corporation and its impact on the individual liberty of those who are associated with corporate life.

Owner "restrictions," such as delegating authority to directors, are necessary, avoid chaos of many owners, each giving orders.

Their principal argument and concern is that the industrial employee is herded by the corporation into a faceless, aimless group, thus robbing him of his individuality, his political freedom, his initiative and his right to be "different."

The main instrument of the corporate Svengali's transformation of the industrial employee's Trilby, according to the critics, is the larger corporation. This argument is based on the mistaken assumption that large-scale enterprise is a modern invention and that people rarely worked in large groups before the advent of the large corporation.

History, of course, shows otherwise. In practically every age and in every society, large masses of people were brought together to perform large-scale jobs. This was true 5000 years ago when hundreds of thousands of Egyptians labored to build the pyramids; or 2100 years ago when one-third of all able-bodied Chinese were impressed to build its Great Wall; or 200 years ago when 200,000 Russians died during the construction of St. Petersburg (now Leningrad). No matter when, big jobs always call for many hands.

But there is an extraordinary difference between the big jobs of yesterday and today. When the great jobs of the

Employee "restrictions," such as work rules, are no infringement on liberty, since they are entered into voluntarily.

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Freedom of job opportunity in U.S. allows employees to leave jobs they don't like. In U.S. no one is forced to do jobs against his will.

Freedom of neighborhood choice is taken for granted in U.S. Financial ability to buy house is primary factor, not government say so.

Freedom of selection is underlying concept of U.S. economy. Buyer's preference determines failure or success of most businesses.

Freedom of vote allows the U.S. citizen to select candidate of his own choice by secret ballot.

Freedom of religion lets people worship in church of their choice, or in no church at all.

past were underway, they were performed by forced labor under the most horrible conditions. Today, the nation's great tasks are performed by free men. Each employee has an inviolable right to work or not to work, to walk off the job if it becomes unbearable and to seek employment elsewhere. On the job or off the job, he is protected by hard-won principles of justice—principles upon which the U.S. was founded and by which this nation is guided today.

The other facts on which the social critics build their arguments about the so-called abridgement of the industrial employees' liberty are equally hard to pin down.

Is the employee's freedom restricted because he must work and abide by certain standards and requirements? Yet, without work rules, safety regulations and standards of performance, neither industry nor the employee could long survive. None of these regulations is established to restrict liberty or diminish initiative. Instead, they are voluntary agreements, freely entered into by employer and employee to insure good performance, safe performance and the continuation of employment and profits.

Is it in the area of his personal life that the industrial employee finds his liberty imperiled? Here, too, the critics would say yes, viewing with alarm a situation in which many industrial employees live in the same neighborhoods, belong to the same clubs and organizations, and attend the same churches. Loss of freedom. Conformity, they cry. Nothing could be further from the truth. In advancing this argument, the critics are ignoring one of the most significant social developments in the last quarter-century: the dispersal of the industrial worker from the "factory towns" and "company homes" clustered about their place of work. If those conditions were prevalent today, perhaps the critics might have a point. But, today, employees live as far away from their place of work as their cars can take them. They live in neighborhoods of their choice and in the best houses they can afford. Many of them live in the same communities because industrial employees and their families make up a large part of the population. Because of their numbers, almost any community will have a goodly portion of residents who work for industrial firms. The same is true for the organizations to which they belong and the churches they support. The industrial employee is free to select his house, his neighborhood, his form of community activity and his form of worship. No one tells him what to do in this area—no one would dare to.

The critics' concern also extends to the nation's stockholders. They feel that a few corporate managers wield great industrial and financial power and that the owners of these business firms have abandoned their rights of management. This charge, too, defies logic. Today's corporations are rarely owned by one or two individuals. Hundreds of thousands of owners are more often the case. No firm could hope to run well with a hundred thousand people setting policy. So the owners freely delegate their authority to a board of directors which appoints the managers and oversees the business. This, of course, on a larger scale is the way the government is run. Each citizen delegates his voice and his power to elected representatives who decide the nation's laws and policies. To argue that stockholders' rights and freedoms are denied by representative elections is to question the logic of free elections and sound business practice.

(Continued on page 46)

PRODUCTIVE PURCHASING

Introduction

■ AMERICAN BUSINESSMEN are big spenders. In the course of a single year, they buy billions of dollars worth of materials, supplies, equipment, and services. The number of purchasing transactions every day is almost beyond comprehension, and fantastic sums of money are involved.

In the electrical industry, for example, electric-utility Purchasing Agents spend an estimated $5 billion annually on fuel, materials, and equipment. Contractors in the building trades spend upward of $3.5 billion yearly for electric apparatus. And a single large manufacturer may disburse 50 cents of every sales dollar in purchasing a broad range of goods and services from thousands of suppliers.

Because of its enormous opportunity to reduce the cost of doing business and thus to increase profitability, today's Purchasing function has necessarily become a vital, dynamic activity.

As widely understood and applied by the Purchasing profession, Value Analysis is the systematic appraisal of functional value. Its objective is to determine the product, part, or material which will reliably perform a necessary function at the lowest cost. The expanding use in recent years of Valve Analysis techniques has enabled Purchasing to strengthen its contribution to business productivity.

Now, the demand for an even greater Purchasing contribution to productivity has led to a broader application of the systematic methods used in Value Analysis—the evolving concept of Productive Purchasing.

PRODUCTIVE PURCHASING applies the scientific method in areas beyond the product itself, seeking to appraise the *added values* which, along with functional value, compose the *total value* of the product. Added values may include, for example, quality control, prompt delivery, application engineering, after-sale service, product innovation.

Essentially, Value Analysis makes possible the objective comparison of competing *products*. Productive Purchasing includes Value Analysis, but goes beyond the product to compare the broad spectrum of capabilities and services of competing *suppliers*.

Since Productive Purchasing is concerned with the assessment of value, its discussion must logically begin with a satisfactory definition of value.

Ed Note. This article prepared by the Advertising and Sales Promotion Department of General Electric Company, Schenectady, N.Y., and just distributed in booklet form by that company's Apparatus Sales Division, is so "chock full" of valuable pointers for purchasing, sales and general executives, that CI asked and received permission to reprint it in the May issue.

What Is Value?

Value, like success, is relative. Each person judges value in terms of his own needs and wants, as well as in terms of time, place, and usefulness.

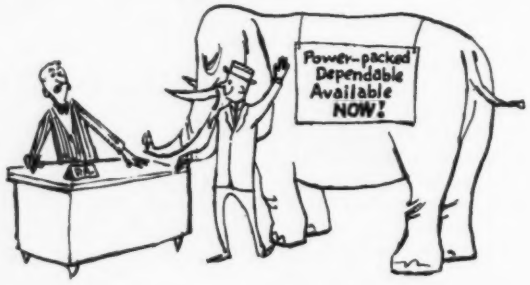
What, for example, is the value of a fuse which fails to blow when electric wiring is overloaded to the point of starting a fire in your home? What is the value of an emergency power generator which is not needed at a hospital for years until, during a rare power failure, it is called upon to provide light for a life-or-death operation? What is the value of a mink coat, and does it have a higher or lower value than the fuse in your electric system?

Questions such as these point up the need to classify value. One classification divides value into four kinds: use value, esteem value, cost value, and exchange value. The fact that there are different kinds of value is responsible for the common confusion of value with cost or price.

THE BUSINESS PURCHASER is usually concerned only with use value and exchange value. These two kinds of value can be incorporated into a single, workable definition for the Purchasing Agent's use: *value is the lowest over-all price that must be paid to have a useful function or service performed reliably.*

Applying this definition to one of our earlier examples, the value of a fuse is determined by the lowest cost at which the circuit-breaking function can be reliably performed. The price of the fuse might be 10 cents. If the 10-cent fuse were found to be undependable, the quality could be increased and the price of a dependable fuse might become $1 or even $10.

The definition of value leads immediately to the need for a method of *determining* the lowest over-all price that must be paid to have a useful function or service performed reliably. Many purchasing people have partially met this need in recent years by adopting the Value Analysis techniques originally developed for manufacturing use.



Value Analysis

Every day, thousands of Americans purchase appliances, automobiles, clothing, electric lamps, jewelry, sporting goods. Each person, casually and more or less intuitively, examines what a purchase will mean in terms of his own needs and wants, and he buys accordingly. In industry, even today,

many buying decisions reflect these same unorganized attempts at fundamental value appraisal. The more

sophisticated businesses have formalized their approaches to purchasing decisions, at least up to a point, by establishing Value Analysis programs.

Value Analysis is the scientific appraisal of functional value. It is a systematic approach to reducing cost while obtaining the same or better performance and quality. Value Analysis may result in the reduction of a product's cost by modifying design or material specifications, by changing the manufacturing process, by changing the source of supply (external or internal), or by eliminating nonfunctional parts or features.

THE HEART OF THE VALUE ANALYSIS TECHNIQUE is the stripping down, at least mentally, of a product into its component parts and features. The analyst scrutinizes these parts and features to determine if their functions are necessary or can be reliably performed at a lower cost. The analyst asks about every product, every part, every material, questions similar to the following:

- Does it perform a needed function?
- Is its cost proportionate to its usefulness?
- Does it need all its features?
- Is there anything better for the intended use?
- Can it be made by a lower-cost method?
- Is it made with proper tooling, considering quantities used?
- Can a standard or repetitively manufactured unit be found which will be usable?
- Will another dependable supplier's product perform the same function for less?

If answers to any of these questions are different from those previously taken for granted, the analyst may be on his way to an important cost reduction. Some typical examples of cost reductions made possible by Value Analysis follow:

- It was brought to the attention of a Buyer that the price—six dollars each—of screen covers for synchronous generators might be excessive. The Buyer agreed and, working with a Value Analyst, carefully examined the function of the cover, which was made from expanded metal spot-welded to a steel frame. Consultations with Marketing and Engineering resulted in redesigning the cover as a one-piece stamping, using a perforated die. The cost was reduced to $1.20 each, for a yearly savings of $18,500.
- A pen-starter and bulb assembly was being purchased for $39.53 per 100. Value Analysis revealed that if the assembly were purchased in components and if material substitutions were made, the assembly could be made in the plant at a cost of $14.98 per 100—a savings of $4500 a year.
- Value Analysis of a transformer line was conducted in an attempt to reduce costs. One of the items examined was a plastic wedge which was being made in the plant. After checking with specialty suppliers, one was found who could produce the wedges at a fraction of the previous cost. The resultant saving was $6000 a year.

True, such savings may be small when compared with the total cost of the equipment or system affected. But many Purchasing Agents have found that savings on a number of parts add up to significant cost reductions.

AS SO OFTEN HAPPENS, one innovation leads to another. The success of Purchasing Agents in systematially appraising product value has resulted in many probings into the broader area of systematically appraising the capabilities and services of suppliers. Productive Purchasing is the name given to this broader concept at General Electric.

General Electric purchasing executives wondered if a more scientific approach could be applied to the broader area of evaluating suppliers. As a result of their efforts in this direction, an organized procedure for evaluating the performance and capabilities of suppliers has been gradually evolving.

PRODUCTIVE PURCHASING is the descriptive name given this broader use of the scientific method. It is an approach to assessing the added values which suppliers offer with their products. These added values, along with the functional value of the product itself, compose the object of the purchaser's constant search: *total value.*

Most suppliers offer at least a few added values; a few suppliers offer many. Of course, there is more to analyzing added values than determining their quantity. The degree to which each is offered must also be analyzed.

For example, many suppliers have quality-control programs. One supplier's quality control may consist of making a perfunctory check on whether the product "works" at it rolls

Productive Purchasing: A Search for Total Value

Value Analysis has enabled many purchasers to determine the functional value of products under buying consideration. Many times, however, the purchaser finds that more than one product will satisfactorily perform the function desired, and at competitive prices.

Purchasing people have long recognized that other considerations enter at this point: the manufacturer's reputation; his after-sale service; his ability to deliver on time; his ability and willingness to help design, install, and test special equipments. However, these and many other considerations are often offered as nebulous, difficult-to-measure added values. With so much effort invested in systematically evaluating competing products, the purchaser can no longer rely on horseback judgment for assessing added values.

out the back door; another supplier may be creatively expanding the entire concept of quality control, reaching back from exhaustive end-product testing through rigidly controlled manufacturing processes all the way to the design stages. The latter's total quality control may be so effective that the purchaser is enabled to eliminate his own testing operation.

THE OTHER SIDE OF THE COIN is the degree to which the purchaser *needs* the added values offered. When buying electric motors for inclusion in his own product, a manufacturer's Purchasing Agent might assign a heavier weight to the supplier's assurance of prompt delivery, his value-analysis program, and his nation-wide service shop organization than to his installation assistance, his product-development program, or his system coordination capabilities. This same Purchasing Agent, when buying an automated assembly line, might re-

verse the weights assigned these added values.

Essentially, the Productive Purchaser buys the added values he needs, and he weights these needed values according to the degree that he finds them desirable.

Analyzing Added Values

The technique of analyzing added values proceeds along the same lines of systematic fact-finding as does Value Analysis. The total value of the supplier's product must be stripped down to its component values. The functional value and each of the added values offered must be listed, item by item. They must be examined, weighed, and tagged with a worth to the purchaser.

A CHECKLIST, as with Value Analysis, is useful for appraising added values. Because there are many different values of importance to different businesses, each purchaser may be able to include other added values in the checklist. Also, some of the broader added values might be broken into subordinate values. As the purchaser goes through the checklist, he should keep in mind the long-range best interests of his company, as well as the immediate advantages to be gained. The checklist follows:

Ed. Note: In making evaluations it is suggested that items on following checklist be listed on left side of sheet of paper, on printed form, under a double ruled head reading—"Added Value"—and that three ruled columns be made on right headed at top, left to right, "Need or Desirability", "Supplier A" and "Supplier B", with a smaller head above these three column captions reading "Rating On Scale 1 to 10".

RELIABILITY

Is supplier a reputable, stable, financially strong company?
Is the supplier's ability and integrity proven by past performance?
Will supplier adequately warrant quality and performance?
Does supplier's quality-control program go beyond adherence to specifications and statistical sampling to a striving for total quality control?
Does supplier have a Value Analysis program for his products, assessing added features, and economies? Is supplier giving me savings along with product improvements?
Does supplier have a constructive labor-relations program which will serve my best interests?

TECHNICAL CAPABILITIES

DOES supplier have a program of creative product development or materials improvement? What are his past results?
Will supplier provide application engineering assistance?
Will supplier provide installation and service engineering assistance?
Will supplier provide analytical engineering that will help improve the efficiency of my basic processes?
Will supplier help train my operators?
Will supplier provide design assistance?
Can supplier handle special needs and designs?
Does supplier provide technical leadership that can benefit me in the future as well as assure that present offerings are up-to-date?
Does supplier provide technical leader-advancement through basic research?

AFTER-SALE SERVICE

Does supplier have a service shop organization available when and where I may need it?
Is emergency service available?
Is the supplier's after-sale service dependable and reasonably priced?
Will renewal parts be available when I need them?
Will supplier help set up a preventive maintenance program for the equipment he has provided me?

AVAILABILITY

Will supplier assure on-time delivery? Are stocks available locally? On short notice?
Is supplier's location an advantage to me?
Does supplier have reserve production facilities to meet emergency demands?
Does supplier's standardized or repetitive manufacturing procedure offer quicker delivery?
Does supplier have commitments to other customers which could affect my order?
Does supplier plan shipments to minimize my inventory?
Can supplier be dependent upon to provide a steady flow of products or materials?
Will supplier be in business on delivery date? When renewal parts or service are needed?

BUYING CONVENIENCE

Does supplier offer a full line of related products?
Is supplier capable of assuming full responsibility for co-ordinating systems and projects?
Does supplier offer suitable credit arrangements?
Does supplier package his product conveniently for my use?
Does supplier have a local sales contact? Is he qualified to help me? Can he call upon specialists for my difficult problems?
Will supplier help me cut acquisition costs such as qualifying visits, telephone calls, lab tests, incoming inspections, spoilage and waste, rejects, and complaints?

SALES ASSISTANCE

Will the supplier's reputation enhance acceptance of my product with his product as a component?
Will the supplier provide selling aids?
Does the supplier help develop mutual markets?
Will the appearance of supplier's product enhance the appearance of my own product?

WITH EACH OF THE VALUES LISTED, examined, weighed, and tagged with its worth to the purchaser, the next step is to add these values to the functional value of the product itself to determine the *total value* of the product. Then, by comparing the total values and the prices of competing products, the Purchasing Agent should have a fairly clear picture of which

product offers him the greatest total value for the optimum price.

Productive Purchasing at Work

There are innumerable cases where added values are important considerations in making purchasing decisions. In some of these cases, the added values are obvious assets to the purchaser; in others, careful analysis of an array of added values is necessary.

A few of these case histories follow. For purposes of illustration, cases have been selected where one or two added values were of critical importance to the purchaser. Only cases involving the General Electric Company are included; they are the only ones about which we are competent to speak.

CASE HISTORY: A New Chemical Plant

The chemical division of a large, diversified company needed a new plant—and needed it fast. Every month lost in construction time meant lost sales for a new resin product.

An Eastern construction company was given design and construction responsibility for the new 65-acre, 10-million-dollar plant. A major part of the equipment to be installed in the plant was the power-distribution and drive equipments.

Because of the close deadline, the construction company decided to look for a single supplier who could handle the complete electric system as a package. In this case, the vitally necessary added value of project co-ordination was a big determining factor in selecting electric equipment suppliers. Largely because of its capability of assuming complete project responsibility, General Electric was given the order.

Work began early on the standardized units for the new plant's power-distribution and drive packages. The pre-assembled nature of the substations, switch-gear, motor-control centers, and motors speeded up installation. The power package arrived on schedule at the plant site, permitting the process area to go on stream before the whole plant was completed.

Actually, in this case, the added value of system co-ordination was an amalgamation of a number of other added values. Application engineering, product design, and installation engineering all contributed to General Electric's ability to accept system responsibility and deliver on time.

CASE HISTORY: A Turbine Component

For a number of years General Electric had been purchasing from East and West Coast suppliers the expansion tees used in the steam-piping system for large steam turbines. An order for a steam turbine-generator from a California utility brought up a possible cost saving: could a West Coast supplier provide the entire low-pressure steam-piping system, delivering it direct to the utility's location? This would save the cost of shipping the piping assembly across the continent from General Electric's plant in the East.

An inquiry to one supplier brought an attractive price quotation. Also, the supplier went farther than quoting on specifications and questioned the design of the units. He pointed out that a clevis bar arrangement on the expansion tee was responsible for approximately 50 percent of the cost of assembly. If this arrangement could be modified or eliminated, big savings would be possible.

General Electric welcomed the suggestion and, after several meetings between the supplier's engineers and General Electric engineers, an assembly was designed which had a simplified clevis bar arrangement and an alternate assembly which needed no clevis bars.

The West Coast supplier received the order for the piping assembly because his location and his design assistance enabled the average cost of the units to be reduced more than 40 percent.

CASE HISTORY: An Electric Co-operatvie

A Midwestern electric co-op recently found that new demands would soon exceed its system capability. The co-op quickly planned a series of new substations requiring 18 additional 2500-kva transformers.

A number of suppliers offered to provide the transformers. After analyzing several transformers for value, a few were considered acceptable. When the co-op management then turned to appraising the added values offered by qualified suppliers, they found that one supplier, General Electric, included an added value of considerable importance to the purchaser: delivery was promised in only 10 weeks, instead of the normal 16 weeks required by the other suppliers. Because of the electric co-operative's need for immediate expansion, prompt delivery was weighted heavily in determining the total value desired.

General Electric was given the order largely because of its prompt delivery —in this case made possible by a repetitive manufacturing procedure designed for speeding up transformer production.

Organizing for Productive Purchasing

The scientific appraisal of product values and added values is a major part of Productive Purchasing, but the program is not complete until Pur-

(*Continued on page 50*)

How **protection in depth** helps cut compensation costs

Reducing accidents by filming the hazards

Sound slide films are great for teaching people. Like teaching safe practices to workers, from welders to sales clerks, from machinists to loggers. More than 500 such training films have already been produced by Liberty Mutual to help policyholders reduce on-the-job accidents and losses. Each film is custom made, using policyholder personnel and facilities in the pictures. This is but one of the many Liberty Mutual services that add up to protection in depth. For more facts about Liberty's protection in depth and how it can help you lower your business insurance costs, get in touch with your nearest Liberty Mutual office.

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News Forum

This department includes a digest of news and comment about Connecticut industry of interest to management and others desiring to follow industrial news and trends.

♦ THE APPOINTMENT of John W. Bushong as industrial relations manager at the Moosup plant of Kaman Aircraft Corporation has been announced by A. R. Baldwin, director of industrial relations.

Moosup personnel supervisor George C. Hood, Jr., will continue to be responsible for all employment functions and will be in a position to devote necessary time to counseling, training and related personnel functions.

Mr. Bushong is a native of Kentucky. Before joining Kaman he was director of personnel for National Bulk Carriers, Inc. in their general offices in New York.

♦ ANACONDA Metal Hose Division of The American Brass Company, Waterbury, will exhibit flexible assembly products in Booth #1236 at the 1960 Design Engineering Show, May 23-26 at the New York Coliseum. "A-X", a new stainless steel flexible assembly for expansion uses, will be featured.

There will be a display of sample assemblies to demonstrate engineering achievements in solving piping problems such as misalignment, vibration, motion, flexing, temperature extremes, conveying corrosive fluids and gases, and combinations thereof. Anaconda assemblies include those made of tin bronze, brass, stainless steel, galvanized steel, aluminum, plastics-metal combinations, and assemblies of Teflon.

♦ THE RETIREMENT of J. Kell Brandon, chairman of the board of The Ensign-Bickford Company of Simsbury has been announced. Mr. Brandon had completed fifty-three years of service to the Safety Fuse Industry. He will continue to serve on the board of directors and on the company's executive committee.

A graduate of Kenyon College, Gambier, Ohio, Mr. Brandon became associated with the National Fuse and Powder Company of Denver, Colorado in 1907. He joined The Ensign-Bickford Company in 1910 as a field service engineer devoting most of his efforts to the development of sound relationships with customers and to the expansion of the Safety Fuse market. In 1917 he was elected assistant secretary of the company and subsequently served as secretary, vice president, executive vice president, president and vice chairman of the board. He was appointed chairman of the board in 1955.

Mr. Brandon has, for many years, been closely affiliated with the Explosives and Mining Industry both here and abroad. His extensive knowledge of mining problems and constant realization of the need for continued efforts toward the establishment of the safest possible mining practices has done much to advance the use of Ensign-Bickford Company products.

Robert E. Darling has been named to succeed Mr. Brandon as chairman of the board, John E. Ellsworth was appointed to the presidency, and W. Floyd Hamilton has become a vice president of the company. C. Raymond Dodd, treasurer, has also been named secretary to replace Chester D. Thompson, retired, and George R. Stubbelbine, controller, has been named assistant secretary.

In the company's subsidiary, Darworth Incorporated, William S. Sherman, general manager of the Ensign-Bickford Products Division, has been named a vice president and P. Willard Nielson, assistant secretary.

♦ THE ADDITION of five project engineers to its engineering staff has been announced by The Smith & Winchester Manufacturing Company, South Windham.

Waldyn Benbenik has been assigned to the Electronic Department, Gene Rood and Mart Martinson have been assigned to Smith & Winchester Precision Rotary Sheeters, and Conrad Rothman and W. Matthews will work on "Trimmastre" Undercut Trimmers.

♦ THE FOLDING PAPER BOX ASSOCIATION has announced that the Packaging Division of the Warner Brothers Company received two merit awards for boxes designed by the company's Package Development Department as the Association's annual meeting held in Los Angeles in March. Over 1200 entries in four categories were submitted from which the 100 best cartons for 1960 were chosen.

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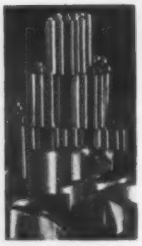

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The Bridgeport company received a merit award in technical superiority of printing, two-color letterpress for its "Thanks" bra carton. A merit award was also received by the company for general merchandise superiority for bakery products with the package produced for the Pepperidge Farm Bake Shop Cookies.

♦ VIKING WIRE COMPANY, INC., Danbury, has introduced a 50-gauge A.W.G. (.001) single enamel film insulated magnet wire.

The new product is designed for use in hearing aid transformers, subminiature relays, for missiles, rockets, computers, and syncro-motors. A one pound spool has 335,000 continuous feet of wire. This is approximately 65 miles of the hair-thin magnet wire.

♦ A NEW LINE of Magic-door pneumatic operators has been announced by Stanley Hardware, division of The Stanley Works, New Britain. The line of materials handling operators, MHO for industrial use, is offered in seven basic packages that simplify selection of automatic door operating equipment to meet the requirements of specific industrial application.

Operators are full-powered for both opening and closing. Speed may be regulated from slow to super-fast—up to three times faster than electric operators, according to the company.

Basic packages include materials handling operators for single in and out swinging doors, pairs of in and out swinging doors, pairs of in-swinging doors, pairs of out-swinging doors, single sliding doors and pair of bi-parting sliding doors.

♦ CRAIG A. BOSSI has been named sales promotion manager of The International Silver Company, it has been announced by John B. Stevens, vice president for sales.

In his new position Mr. Bossi will be associated with International's advertising division. He has been advertising director at Wallace Silversmiths for the past six years.

♦ THE APPOINTMENT of James F. Stevenson as technical representative for the Newton-New Haven Company, die casters in West Haven, has been announced by Harry Follman, sales manager. As technical representative, Mr. Stevenson will contact Newton-New Haven customers advising them on their die casting design and production problems.

For the past 25 years the Newton-New Haven Company has been utilizing its design experience and die casting craftsmanship in assisting manufacturers to produce an improved product offering better appearance, re-

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duced assembly time and superior finishing qualities.

♦ PRODUCTION contracts for T53 gas turbine engines amounting to $14,234,460 have been awarded Avco Corporation's Lycoming Division, Stratford, by the Air Force's Aeronautical Systems Center, Air Materiel Command, Wright-Patterson Air Force Base, Ohio.

The contact covers production of both the 960 shp T53-L-1A and 1-B helicopter engines, and the newer "universal" T53-L-3 turboprop version. The newest contract, second largest production contract received by the company since inception of its gas turbine program eight years ago, extends current production of the T53 through December 1961.

♦ A NEW self-contained loading reactor, called Excel, has been announced by The Superior Electric Company, Bristol. The device is said to simplify inductive load testing in laboratory, test, inspection, research and development applications.

Designed to provide a convenient inductive load which can be made adjustable by using in conjunction with a Powerstat variable transformer, the Excel is used primarily for testing apparatus at various lagging power factors, i. e. to simulate an inductive load.

It consists of a gapped, strip-wound silicon steel toroid core, wire-wound and imbedded in epoxy compound. The entire assembly is enclosed in a compact phenolic case having two Superior 5-way binding posts for connections.

♦ A COMPLETELY new line of 16 portable power tools for industrial use has been announced by Stanley Electric Tools, division of The Stanley Works, New Britain.

The line includes 10 heavy-duty drills, in a range of ½, ¾, 1 and 1-¼ inch sizes, three heavy-duty disc sanders in 7 and 9 inch sizes; a 7 inch polisher and two portable grinders in 5 and 6 inch sizes.

♦ PHILIP R. MARSILIUS, The Producto Machine Co., Bridgeport, and Richard F. Moore Special Tool Co., Inc., Bridgeport, have been appointed to two top posts in the National Tool & Die Manufacturers Association, it has been announced by John A. Barth, association president.

John D. Dewhurst, Arrow Tool Company, Inc., Wethersfield, has been named chairman of the Apprenticeship Committee of the Association for the third successive year.

♦ ROGERS CORPORATION, Rogers, has elected Norman L. Greenman, vice president-marketing. Rogers manufactures and fabricates chemical-and-fiber materials for industrial, military and consumer applications.

Mr. Greenman joined Rogers in 1948 as development engineer and rose successively to manager of product development, manager of planning, and director of marketing.

♦ THE CUNO Engineering Corporation, Meriden, designer and manufacturer of industrial filters for over 30 years, has named Jerre L. Creske to the position of sales manager of its Commercial Sales Division.

Mr. Creske will assume complete responsibility for the marketing of Cuno's Aqua-Pure, potable water filter and its line of filters developed to handle the water filtration needs of homes, hospitals, restaurants, hotels, motels, and photographic processing laboratories.

♦ DANIEL C. McCARTHY, has been named administrative vice president of Pratt & Whitney Company, Incorporated, West Hartford, it has been announced by Jacob J. Jaeger, president.

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GREATER STRENGTH!
The man working from a Flint Safety-Platform Ladder is protected by extra tough side rails, steps double strengthened by steel rods and diagonal braces, and heavy duty, aluminum double-ears and plates at ladder top.
He is provided large, firm standing space by the sturdy, oversize 14" x 18" safety-platform. The unique top-cap is drilled and grooved to prevent his dropping heavy tools, nails or screws to the floor.
Built of select materials and thoroughly seasoned ladder stock, the Flint Safety-Platform Ladder gives extra safety, greater strength and durability than ordinary ladders.
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The Torrington Manufacturing Company of Torrington, Connecticut produces fine products in four major areas: air impellers, blower units, wire and strip forming machinery, and mill machinery.

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Mr. McCarthy was formerly assistant comptroller for Mobile Oil Company. He began his career as a trainee with Ford Motor Company in 1949. In 1950 he became an analyst with the Lincoln-Mercury Division of Ford. Three years later he was made manager of the profit planning department for Ford Division of Ford Motor Company. In 1956 he joined Chrysler Corporation.

♦ TOP EXECUTIVE changes have been announced by The American Thread Company, New York.

E. B. Shaw has been named the company's new president succeeding P. S. Howe, Jr., who moves up to chairman of the board. H. E. Williams becomes vice president and a director, and H. L. Crispen, Jr. advances to controller.

EDWIN B. SHAW

Mr. Shaw, an up-from-the-ranks manufacturing man, has been executive vice president since December 1957. He started as an apprentice at Fall River, Mass., and moved upward through the company's manufacturing division, working mostly at the company's Willimantic mills.

During the latter part of his rise, he acquired industry responsibilities, serving as an officer of MAC, two years as president four years as vice president and eight years as a director. He was elected an American Thread vice president in 1953, and a director in 1954.

Mr. Howe joined American Thread as a vice president and director in 1937. Under his direction the company has lately embarked on a progressive series of projects involving new product lines, integrated data processing, work simplification and a mill modernization program.

Mr. Williams joined the company as controller in June 1955. He was elected secretary of the company in 1959. Mr. Crispen joined American Thread in November 1956 as assistant cost supervisor. He was promoted to supervisor a year later and became assistant controller in February of last year.

♦ GEORGE W. HATZENBUHLER has joined United Aircraft Corporation's Norden division as purchasing agent for the Norden Laboratories and Milford departments, it has been announced by Ernest J. Greenwood, Norden's operations manager.

Mr. Hatzenbuhler was formerly purchasing agent at the Hamilton Standard division of the corporation in Windsor Locks.

♦ JULIAN C. PEASE, president of the New Britain Machine Company, New Britain, has announced the election of Robert T. Frisbie, Jr. as executive vice president of the company. Mr. Frisbie is a director of the company and until appointed to his new post was vice president in charge of sales.

♦ PRATT & WHITNEY Company, Incorporated, West Hartford, nationally known manufacturer of precision machine tools, gages and cutting tools, has announced its plans to make two product lines available to customers through selected industrial distributors.

Pratt & Whitney, which celebrates its 100th Anniversary this year, has always sold all products on a direct basis, through its own company representatives and branch offices. However, in the near future, the company's wide line of cutting tools and conventional gages, will be sold through local industrial distributors.

The company's decision to sell through industrial distributors was reached after a careful market study of its own and its customers' needs. According to George Steinmetz, newly appointed manager of industrial distribution, the new program is designed to give customers the personalized local service on standard items that the industrial distributor is organized to provide, and at the same time make readily available the expert application engineering and the prompt service on special tools and gages for which Pratt & Whitney has always been known throughout industry.

♦ THE FIRST PHASE of Sperry Semiconductor's multimillion dollar expansion program got underway in Norwalk recently when ground breaking ceremonies were held for their new headquarters.

Sperry Semiconductor is engaged in the manufacture of silicon diodes, rectifiers, and transistors, which are essential components used throughout the military and industrial electronics industry. These devices perform functions hitherto filled by vacuum tubes, and in many instances are used to replace switches and relays. They rep-

resent one of the most rapidly expanding areas of the dynamic electronics industry.

According to Dr. W. R. Sittner, general manager of the Sperry Rand Division, the transition from pilot line operations to full scale volume production was a contributing factor in the decision to build the new plant.

♦ SEVERAL of its standard machine components and other products were displayed by the Hartford Special Machinery Company, Hartford and Simsbury, at the ASTE Tool Show held in Detroit, Michigan last month.

Featured in the display was Hartford Special's all-new Model 17-400 Air Hydraulic Drill Unit, a standard "Building Block" component designed for assembly into automatic machines custom engineered for individual production requirements. Several other drill units, of both air hydraulic and cam-driven type, were also shown.

In addition to showing operating components, Hartford Special also displayed a number of structural components such as bases and columns and also three sizes of its well known "Super-Spacer" indexing devices.

♦ CHARLES S. HEMPSTEAD has been named a vice president of Peabody Engineering Corporation of Canada Ltd., a subsidiary of Peabody Engineering Corporation.

The appointment was announced after a recent meeting of the board of directors of the Canadian Company.

Mr. Hempstead is manufacturing manager of the parent company's plant in Glenbrook.

♦ ALLEN Manufacturing Company, Hartford, has just introduced a convenient new key kit that holds hex-socket screw keys in a wide range of sizes to fit all except the largest diameter Allen Hex-Socket Screws.

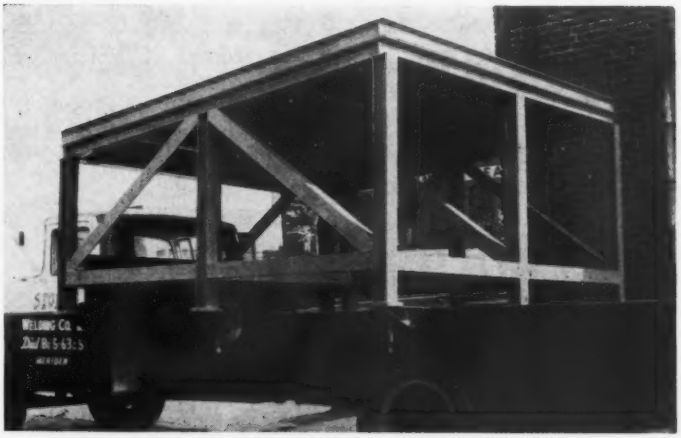
The kit holds 18 genuine Allen hex keys in a compact, sturdy metal box measuring only 5-¾" by 7-½" by ¾". Keys range from the smallest (.028") through ⅜" hex diameter.

The inside cover of the box has a key fit table that shows at a glance the correct key size for each Allen socket screw product.

♦ THE "HARPERIZER" is a machine recently developed by Harper Buffing Machine Company, East Hampton, which improves the finish of metal parts by processing in loose abrasives in a manner quite different from conventional barrel finishing.

The machine uses fine loose abrasives. It is built to produce high centrifugal force that holds the parts and media together in a tight mass. Abrasives and the parts being processed

A Load of Storts Precision Welding



Square, trim lines and solid, full-strength welds by Storts make this heavy-duty billet discharge table fit for the very rugged conditions under which it operates. It is wise planning to make Storts your source for weldments that must be dependable.

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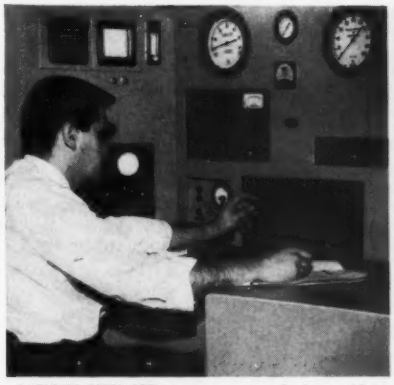
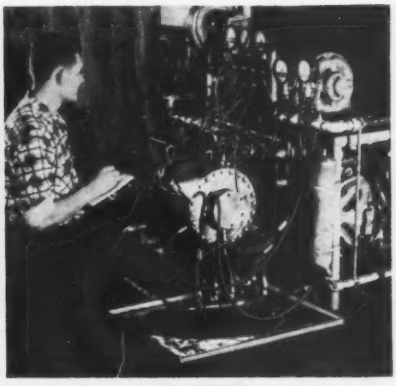


FATIGUE SPIN RIG uses compressed air to drive balls around the bore of a test cylinder to determine cylinder's static fatigue life.



JET ENGINE BEARING TESTING MACHINE tests main rotor ball bearings under actual operating conditions of load and lubrication.

Fafnir works with "unknowns" to come up with ball bearings you'll need!

In many fields of industry and technology, progress depends in large measure on solving increasingly complex ball bearing problems. Bearing materials and lubricants have yet to be perfected that can take certain temperature extremes. Higher speeds and heavier loads pose formidable problems. So does miniaturization.

To help its research engineers probe the unknowns in these and other areas, The Fafnir Bearing Company maintains the most up-to-date facilities for metallurgical research, and bearing development and testing. It is another reason why you are likely to find Fafnir ready with the answers—should bearing problems some day loom large for *you*. Worth bearing in mind. The Fafnir Bearing Company, New Britain, Connecticut.

Write for booklet, "Fafnir Formula For Solving Bearing Problems" containing description of Fafnir engineering, research, and development facilities.

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slowly move with relation to one another while in this tightly packed mass. As a result, certain types of intricately contoured parts can be uniformly smoothed to a finish comparable to that produced by buffing. Stock removal is rapid.

The "Harperizer" consists of a number of barrels mounted on a large turret that revolves at speeds which develop great centrifugal forces in the barrels. The machine might be compared to a ferris wheel. The turret is analagous to the wheel, and the barrels take the place of seats on the ferris wheel. Naturally, the turret on the "Harperizer" is much smaller than a ferris wheel, and it revolves much faster. This high revolving speed produces centrifugal force which is great enough to push parts and media together into a tight mass.

♦ HEAT TREATING irregularly shaped parts in pusher type furnaces is said to be simplified with newly engineered pallet-type trays made by the Wiretex Manufacturing Co., Bridgeport. The custom-made trays, on which parts-holding fixtures are mounted, are available in a variety of metals and alloys, according to specific heat treating needs.

Designed primarily for use in pusher-type furnaces where no lowering or raising of the workload is necessary, the tray supports the parts-holding fixture, usually custom-made for irregularly shaped parts. Use of the tray protects the fixture from excessive wear and gives it added support during the processing cycle.

♦ An 8MM PROJECTOR that shows movies on its own built-in viewer as well as on a conventional projection screen was introduced by the Kalart Company at the 36th Annual Convention of the Master Photo Dealers' and Finishers' Association in St. Louis recently.

The new product, the Kalart VP-88, is actually a two-purpose utility in one compact piece of equipment, priced at $89.50. It is the first popularly priced product in the 8mm field to combine the features of a motorized-action editor with an easy-to-operate projector.

♦ STANLEY H. MAIKOWSKI has been appointed general superintendent of manufacturing of the Hartford Division of Emhart Mfg. Co., producers of automatic glass making machinery.

Before his promotion, Mr. Maikowski served successively as general foreman and plant superintendent at one of the division's plants.

♦ HOWE SOUND COMPANY, Danbury, has announced the acquisition of the outstanding stock of Peterson Machine Tool, Inc., of Merriam Kansas.

Peterson will become part of Sperry Products Company, a division of the Howe Sound Company, located in Danbury. The Peterson product line includes Sonoflux, well-known in the magnetic particle inspection field. In addition to Sonoflux equipment and supplies, Peterson also manufactures verticle surface grinders and screw-in type valve seats for maintenance and overhaul of automotive, truck and railroad diesel engines.

♦ THE SMALL Business Administration has announced that 1,788 prime Government contracts valued at $53,007,853 were awarded to small concerns during January under the agency's cooperative set-aside program with military and civilian purchasing agencies.

The SBA's set-aside program is conducted jointly with buying officers of other Government agencies. Proposed purchases are screened by SBA representatives and procurement officials to determine which items or services are suitable for small business award.

♦ EUGENE S. REED has been

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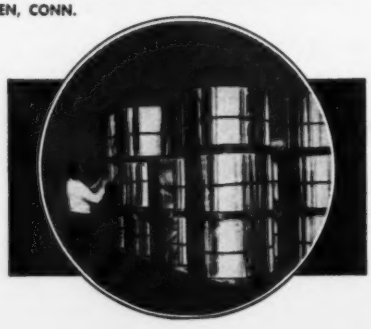

named sales manager of Rockbestos Wire & Cable Co., Division of Cerro de Pasco Corporation, New Haven, it has been announced by A. S. Basil, vice president and general manager.

As sales manager for Rockbestos, Mr. Reed will assume the responsibility of supervising the sales activities of the main company plant in New Haven, as well as branch offices in several cities throughout the country and two warehouses in Chicago and California.

♦ WITH the formation of its new Industrial Chemical Division, the name of The ESBEC Barrel Finishing Corporation of Stamford, has been changed to The ESBEC Corporation. No change of ownership or personnel is involved.

The new Industrial Chemicals Division manufactures a wide line of paint strippers and metal cleaners which have been under development for the past year. These products will be marketed through manufacturer's agents and supply houses.

♦ WRENCHKING open-end ratchet wrenches, a product of Royal Tool Company, will be marketed industrially throughout the country by The Bristol Company, Waterbury.

The new wrenches will be sold through industrial distributors. They are designed to give a unique ratchet action with open-end convenience that provides for faster wrenching that saves up to 70% in working time. They also will grip and tighten nuts that are rounded far beyond the point where they can be gripped with a conventional wrench.

♦ QUANTUM, INC., of Wallingford, will hold its semi-annual Industrial Symposium on May 19 at the Yankee Silversmith Inn, Wallingford.

The theme of this year's program will be "Plastics in the Sixties", and persons interested in attending should write or call Dr. D. R. Doede, program chairman, Quantum, Inc., Lufbery Avenue, Wallingford, COlony 9-7765.

♦ A NEW magnetic recording tape developed at a cost of $9 million and designed to meet the intensified requirements of multi-track stereophonic sound has been announced by the Reeves Soundcraft Corporation, Danbury.

The new tape, which contains an exclusive oxide formulation called FA-4, was developed because four track stereo and other important advances in magnetic tape recording has raised the standards of performance required of recording heads, amplifiers, speakers and the tape itself.

Frank B. Rogers, executive vice president of Soundcraft, explained that

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now are a necessary part and expense of every establishment, and a properly engineered arrangement and pavement is a sound investment.

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FA-4 stands for a new Frequency Adjusted oxide formulation. The new oxide formulation captures and reproduces a wide range of high frequencies.

♦ BLACK MAGIC Zinc Black is a new product for the application of an attractive durable black finish to zinc, zinc plate and zinc base die castings announced recently by the Mitchell-Bradford Chemical Company, Milford.

The new product is used in the proportions of six to eight ounces of Black Magic Zinc Black D per gallon of water and operated at 150-170° F. The chemical reaction takes place in a matter of a few minutes and the solution is inhibited against the formation of insoluble zinc compounds, resulting in a continued clear, clean operating solution.

♦ LIGHTWEIGHT, space saving silicon transistors with consistent performance for computers and telemetering equipment in missiles and for industrial electronics have been introduced by National Semiconductor Corporation, Danbury.

The company is producing the new transistors by advanced diffusion techniques it developed. They are being assembled under a "controlled conditions" environment to assure reliability and uniformity.

Because of the shape of the active area of crystal, these units are known as "mesa" transistors. The new transistors have only one-third the weight and one-fourth the volume of earlier types.

♦ BRANSON Ultrasonic Corporation, Stamford, has introduced the new-

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est development in ultrasonic cleaning. It is a fully transistorized, self-contained cleaning unit called the Model LGT-40. The equipment is said to be ideal for cleaning precision parts, electronic components, investment castings, jewelry, bearings, small sub-assemblies, dies, molds, spinnerets, or any other items from which a variety of soils and contaminants must be removed.

♦ AT THE ANNUAL MEETING of Stanley-Humason, Inc., subsidiary of the Stanley Works, Forestville, Frederick R. Downs, Jr., formerly sales manager, was elected vice president, sales, and Peter D. Prudden, plant manager, was elected vice president, manufacturing.

Mr. Downs has been sales manager since 1953, following his appointment as assistant sales manager in 1951.

Mr. Prudden joined Stanley-Humason, Inc. in 1946 as a junior engineer and became a plant engineer in 1948. Subsequently he was made a department head and appointed a factory superintendent in 1953. In 1957 he was named plant superintendent and two years later became plant manager.

♦ A FOUR-PAGE engineering data sheet on its exclusive "T" retainer bearing has been released by The Barden Corporation, Danbury, manufacturer of precision ball bearings.

The "T" retainer combines the high-speed qualities of laminated phenolic and the high strength of aluminum alloy. Operating temperatures for the "T" retainer range up to 300 degrees F. for continuous operation, and for short periods to 350 degrees F.

Maximum speeds of up to 100,000 RPM are permissible with grease lubrication under moderate loads and moderate temperatures. For longer life at high speeds, oil mist or spray lubrication is usually required.

Copies of the data sheet are available from the company.

♦ ELTON T. BARRETT, president, CGS Laboratories, Inc., Wilton, has announced that henceforth the company will carry on operations under the name of Trak Electronics Company. The corporate name remains unchanged for the present, and the business will be conducted under the name Trak Electronics Company, Division of CGS Laboratories, Inc.

Mr. Barrett also announced the appointment of Herman P. Taub as vice president, operations. Mr. Taub was formerly operations manager for the corporation.

Announcement was also made of the formation of the new Communications and Reconnaissance Department, with R. E. Fredrick, manager. Walter

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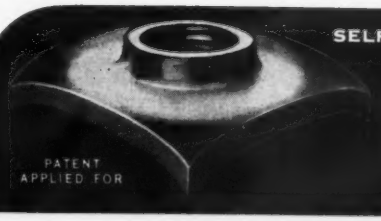

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High-quality, low-cost nut is made of spring-tempered high carbon steel or of tempered aluminum. Has cut threads and a flange with turned-down corners which bite into material to which applied. Spring flange is deflected during tightening for vibration-proof assembly. Used by leading manufacturers. Available in sizes 6-32 through ¼"-20. Other sizes in process.

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L. Gustavson, former contract administrator, was named sales manager. The new department will handle manufacturing and sales of Trak Panoramic Receivers, Trak Search-Lock Receivers and Trak Antenna Multicouplers, which are offered for antenna systems requiring up to fifty channels.

♦ A $45 MILLION contract for turbine-powered HSS-2 helicopters, spare parts and associated items has been awarded to Sikorsky Aircraft Division of United Aircraft Corporation, Stratford, by the Navy, Lee S. Johnson, Sikorsky general manager, has announced.

The HSS-2 is already in production for the Navy as an anti-submarine weapons system. The world's largest amphibious helicopter, the HSS-2 has a flying boat hull, all weather capability, and is powered by two gas turbine engines.

♦ JAMES A. CARTER has been appointed general plant superintendent of Pitney-Bowes, Inc., Stamford.

Mr. Carter joined to Pitney-Bowes as an apprentice in 1941. He returned to the company in 1945 after two years in the Army Air Force, advancing from operator to foreman and machine shop superintendent in 11 months. Prior to his most recent promotion, Mr. Carter was assistant to the general plant superintendent for six months.

♦ EDWARDS COMPANY, INC., Norwalk, has announced the formation of a new Educational Equipment Division to market electronic teaching aids.

R. S. Edwards, president, said, "The language laboratory concept of teaching foreign languages is causing a quiet revolution in classrooms across the country. Already more than 300 colleges, universities and secondary schools use speech laboratory methods to help students speak foreign tongues more fluently. We want the Edwards Company to become an important part of this new and exciting development."

♦ THE BAR-PLATE Manufacturing Company, Orange, has announced the appointment of Henry A. Grehl as division manager of its Precision Sheet Metal Fabrication Division. In this capacity Mr. Grehl will be responsible for the sales and fabrication involving contract work.

Before joining Bar-Plate, Mr. Grehl served in various supervisory capacities at the United Manufacturing Company (Division of W. L. Maxson).

♦ THE MODEL 1000 five inch Precision Chuck for use on high speed precision lathes, boring machines, and grinders has been announced by PowerGrip, Inc., Rockfall.

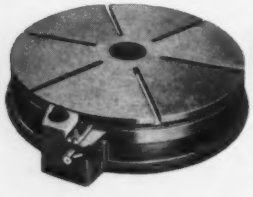
The chuck is supplied with blank top jaws which are designed to be bored out to fit the workpiece. It is accurate to less than .0005." It will hold work up to 3½" dia. on the O.D. or I.D. The chuck has a ¾" hole through it, which permits coolant to be piped through the spindle. It can be operated either by an air cylinder or by a lever-type collet closer.

♦ DAVID O. BENSON has been appointed district manager of the Mishawaka, Indiana warehouse of Gibbs & Steel Company, Inc., Southington, it has been announced by Charles F. Gibbs, president.

The warehouse stocks stainless steel, phosper bronze, brass, beryllium copper and music wires and stainless steel strip.

Mr. Benson joined the company in 1956 and has been responsible for the firm's sales expediting, public relations, office management, and purchases.

♦ CHARLES H. KAMAN, president of Kaman Aircraft Corporation, Bloomfield, has established a national award to be given to "The Outstanding Helicopter Pilot of the Year" by the Awards Committee of the American Helicopter Society. It is called the



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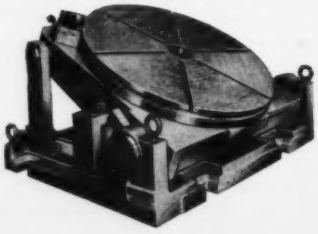

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♦ THE FORMATION of Auction Mart as a division of Botwinik Bros., Inc., New Haven machine tool merchants, has been announced by President Norman I. Botwinik.

The new division will sell surplus machine tools, small tools, raw materials and office equipment from consignors at auction at the Botwinik plant. Auctions will be held on a monthly schedule.

About 10,000 square feet of the 74,000 square foot Botwinik factory will be turned over to the one-day sale of several hundred lots of machine tools, small tools, raw materials and office equipment from consignors.

♦ JAMES F. ROCHE, director of public relations of the Stanley Works, New Britain, died recently at a New York Hospital.

Mr. Roche was appointed to the new post of director of public relations in January 1956, with offices at the company's New York office. He was a native of New Britain.

A graduate of the Columbia University School of Journalism, Mr. Roche joined the staff of the New York Times as a reporter covering the shipping district in 1925. In 1938 he joined Moore-McCormack Lines to direct the public relations program of that company's Good Neighbor Fleet. During the war he served in Washington with the Maritime Commission and the Office of War Information handling public relations for the late Secretary of State, Edward R. Stettinius in connection with the nation's lend-lease program.

Mr. Roche was a vice president of the Kiwanis Club of New York City; an arbitrator for the American Arbitration Association; a member of the Board of Managers of the New York Y.M.C.A. School System.

He is survived by his wife, a daughter and a brother.

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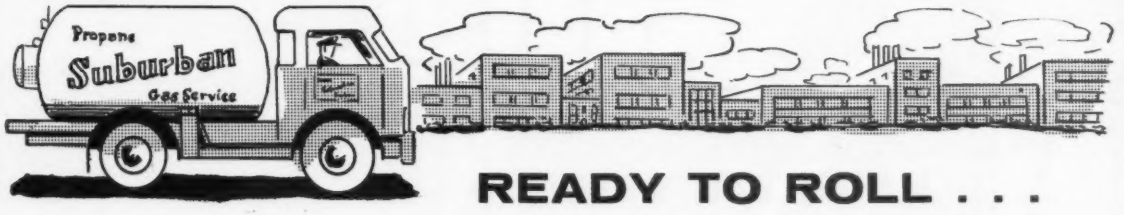

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How Would You Decide?

By Fredrick H. Waterhouse
Executive Vice-President

♦IS failure to fully disclose a criminal background when asked about arrests, cause for discharge?

Here's what happened.

The grievant filled out an application blank and was interviewed by one of the company's managers. The application included a question whether the grivant had ever been arrested. In answer he mentioned one arrest and when asked to explain he said it was when he was a kid and it was just "one of those things." When asked if there were any others he replied none except for motor vehicle violations. About three months after he was hired the police contacted the company regarding a matter in which the grievant was allegedly involved and the company was advised of his complete record of arrests. In addition to the one he had mentioned, there were several others as late as about a year before he was hired. These arrests were not for motor vehicle violations. The company then discharged him for having omitted material information, which had a bearing on his being hired, and for falsifying his application for employment by concealing a rather extensive and serious criminal record. He admitted a full disclosure would have prevented the company from hiring him. The union protested the discharge. It claimed the grievant truthfully answered the questions on the application and argued that a misdeed in a man's youth should not permanently prevent him from securing employment. Also, the union contended the company should have taken any action to investigate the grievant's background during the 45-day probationary period.

How important is a full disclosure in employment applications?

The arbitration board ruled that stating a half-truth, which by its very nature leaves some information purposely suppressed, especially relating to the present grievant's background, is falsification of the first order and justified discharge. The argument that he was being truthful by admitting to an old minor offense while concealing at least half a dozen arrests of a much more serious nature was totally unconvincing. The board ruled the grievant had a responsibility to reveal all the facts and not just part of them for the company to decide whether to hire him.

Just what insubordination is just cause for discharge?

Here's what happened.

The grievant was a driver for a distributor and was a union steward. The company claimed he publicly stated he would not take orders from the company sales manager and repeated the statement to the president. Two days before he was discharged, according to the company, he refused to deliver and threatened to go home sick unless he was relieved of a number of stops. The company was forced to submit to his threats in order to get any deliveries made. The company further contended that repeated incidents of this type were, in effect, a dictation of company policy by the grievant and such a condition was intolerable. The union, on the other hand, claimed that the whole trouble stemmed from an insistence on the part of the employee that the company live up to the letter of the contract. It stated that the employee did not refuse to take orders from the sales manager but merely said he wasn't going to listen to the sales manager's complaints because the president generally countermanded his statements anyway. As to the stops he insisted be removed from his route, he accused the company of failing to set up definite routes as provided for in the contract, and also said the stops in question actually belonged to another route.

Was the employee's action sufficient to justify discharge?

The arbitration board felt that, although there was a degree of insubordination present which ordinarily deserved disciplinary action of some type, the past practice of the company of tolerating similar actions and the failure of the union and the company to actually set out routes specifically as provided for in the contract, added up to a situation not warranting discharge.

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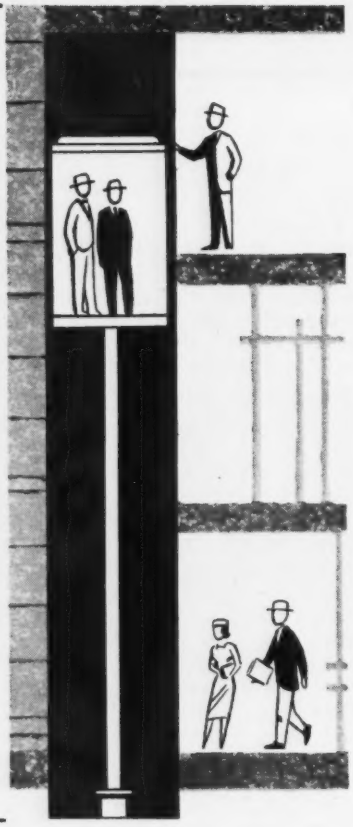

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Is the issuance of a pass actually approval of leaving or solely a timekeeping device?

Here's what happened.

On a summer evening the employees of one department started, shortly after the shift had commenced, to ask for passes to leave the plant because of excessive heat. Within twenty minutes enough had left to cause the company to realize it was encountering an unauthorized and concerted walkout. It thereupon telephoned each of the employees and directed them to return to work the balance of the shift or become subject to two days disciplinary suspension. All the employees returned within a reasonable time except the grievant. The shop chairman then called him but couldn't reach him. The foreman called him the following day but was informed he was asleep so word was left to call the company. He didn't call so the eventual result was a two day disciplinary suspension. The heat obviously was not the reason for the general exodus. However, the union claimed that the pass which was given to the grievant to leave the plant was tantamount to permission or tacit approval to leave. Thus, when informed by the foreman that if he didn't return he would be subject to a two day suspension he concluded he was suspended and was under no obligation to return until the two days were up, which he did. The union reasons that the two day suspension, being unjustified, the grievant is entitled to be paid even though he left town for the two days and was not available. The company claimed the giving of a pass was neither approval or disapproval of leaving but was used to supplement its time-card system and is given to every employee who enters or leaves the plant at irregular hours. It pointed out that such passes had been given to groups of employees once who left their jobs in an unauthorized strike and that "wildcat strike" was not approved by the handing out of passes.

Is the pass merely a timekeeping device?

The arbitrator ruled that the issuance of the pass was not the granting of permission to leave, and its use has no purpose other than timekeeping. Consequently, when the grievant left work he, along with the others, left work before the regular quitting time without permission or authorization and disciplinary action was justified.

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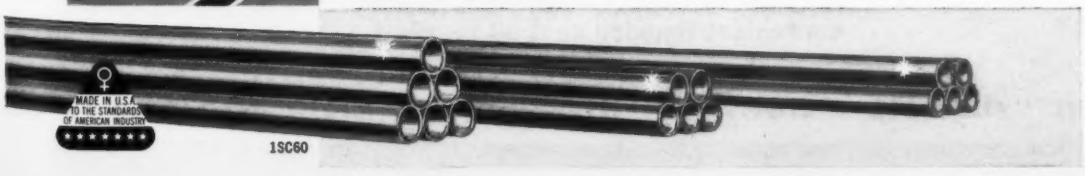

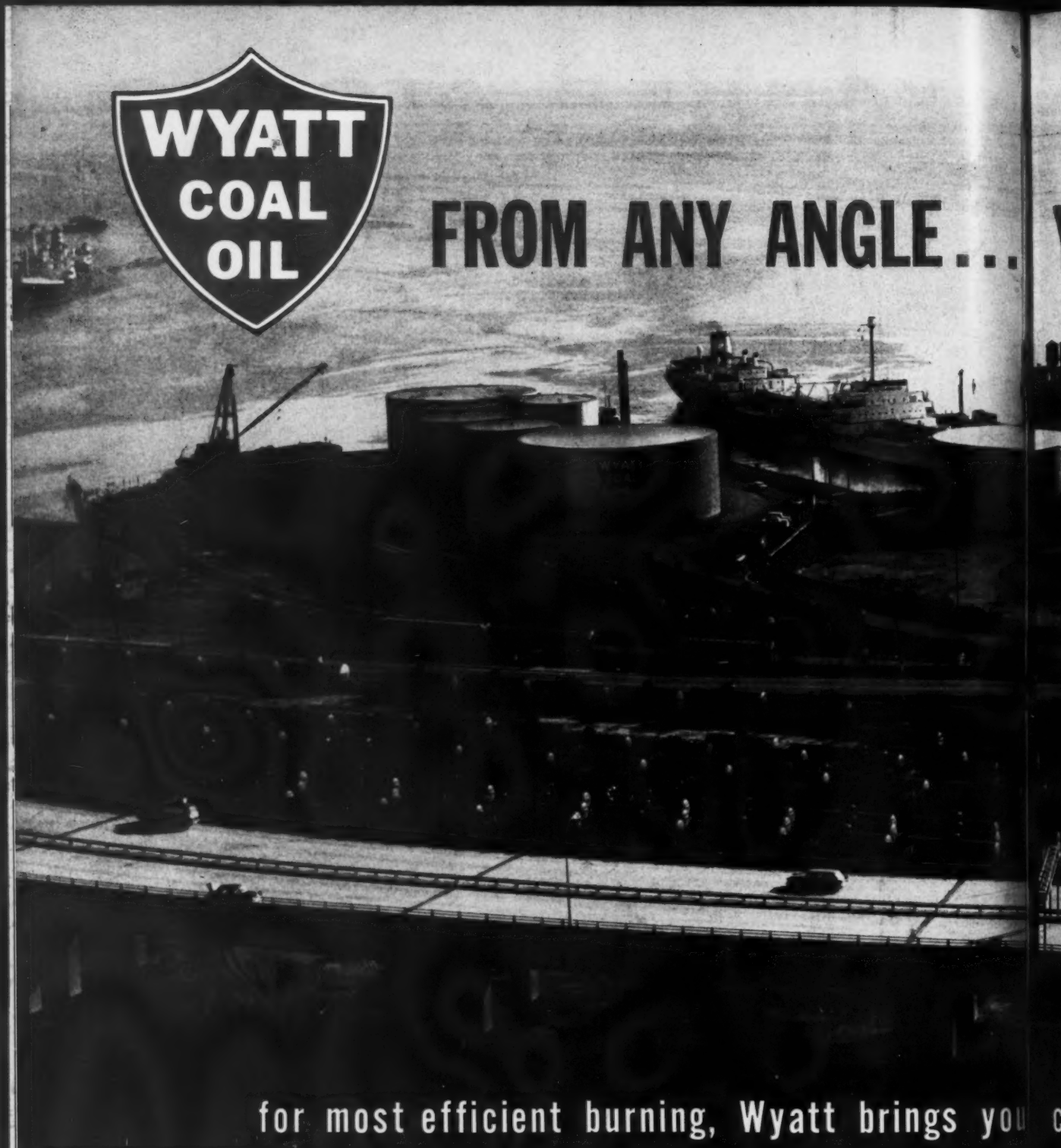

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Transportation

By John B. Hedges
Traffic and Export Manager

Community Aid To Railroads

♦ HOW much support should an essential public service expect from the tax-payer? That question and the many complex approaches to answers to it are inextricably involved in our railroad problem here in the East. Connecticut, with one of the sickest of the Eastern railroads domiciled in the state has much at stake in trying to find acceptable answers.

Historically, our railroads were built with varying forms and amounts of public aid. Towns, municipalities, states and the Federal government poured money into early railroad development in one way or another. Local bond issues were quite prevalent here in New England. Despite this type of aid, the railroads were fully recognized as basically free enterprise ventures. In common with all transporters of goods or persons, they had certain common law duties. They were, in legal terms, "affected with a public interest." From scattered, disjointed individual lines they grew, merged and thrived until in 1887 the Congress imposed regulation on the rail lines, arguing that they had a monopoly of surface transportation and that they were abusing it. That basic legislation, patched and re-patched from time to time, is still on the books, but the monopoly has long since vanished.

It was on its way out when the first horseless carriages rolled over the first inter-city improved highways paid for by the taxpayers. The pressure of the auto buying and riding public demanded an ever-increasing network of such roads. The motor freight vehicles found them at hand. Before long intercity truck lines sprang up. They, too, came under Federal regulation in 1935, but a regulation directed chiefly at policing the intensely sharp internal competition of the young industry.

The depression spurred road building as a public works project. It also boosted greater use of motor freight as a means of getting faster deliveries and keeping smaller inventories. The rail lines, however, continued to operate as though they were still the only surface carrier and the truck and private car only passing fads.

During World War II the railroads demonstrated their ability to move the men and materials essential to the direct war effort. They also managed to provide passenger and freight service for a civilian population restricted in its accustomed use of the highways by tire and gasoline rationing. Railroad rates and fares generally remained static during the war, and most war traffic was carried at the depression level of rates.

In the switch back to a peacetime economy the nation's rail lines found that the cost of labor and supplies was mounting rapidly while business and revenue was dwindling with equal speed. Rate increases, at intervals from 1946 through 1958 served to meet these increased costs in a measure, but in their nature, since they were blanket percentage increases they had the effect of making the rails less competitive, giving them less and less of what should have been their share of business. The return to a more normal economy had brought more pressure for expedited service, low inventories and the general flexibility of motor transport. Air lines were pushing forward with a vigorous program of larger, faster planes, backed by federal, state and even municipal airport construction funds, to say nothing of outright operating subsidies from Federal funds. This hit long haul rail passenger service and hit it hard.

Except on a few commutation lines around major metropolitan centers, passenger operations rapidly became a sort of standby service, something to be used when the weather was bad. But the commutation lines had their difficulties, too. Expanding suburbs demanded expanding highway networks. War-time car pools did not vanish with the peace. New warehouses and plants were built but many of them had no rail sidings. At the same time the mushrooming suburbs avidly sought more tax revenue to pay for the municipal services their swelling populations demanded. Rail property (stations, rights of way, yards and all other such facilities) was an obvious target. Hit by heavier assessments and rates as well as a drop in commuter traffic, the rail lines began to cut back service. At that point they ran afoul of a curious quirk in the public mind. The average suburban citizen was not patronizing all of the trains and yet he wanted them available, just in case he didn't feel like driving, wanted to go into town late or come back at an odd hour. Baffled by this, the railroads did an inept job of public relations. Their pleas, their statements of losses with dull tables of figures failed to convince people who still had a firm grip on an image of the past, that picture of the giant, monopolistic, "public be damned" railway corporation. Railroad service had been taken for granted, just like postal service, telephones and other utilities. The railroad had always been there. Ergo, it should continue to be there and they would use it when and if it suited their own convenience. And it must be admitted to the dis-

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credit of many of the commuter lines that their tactics in dealing with their patrons were not those of a merchant with something to sell. At times they seemed much more intent on showing what a poor product they had and peevishly blaming the patron for it.

What both railroads and commuters did not see was that the old, traditional concepts of railroad passenger service were badly outmoded. The regulatory agencies shared that blindness to a great degree. The railroads had failed to perceive the true depth and nature of their passenger competition, wasted time and money blaming bus lines and air lines when the real factor was the private automobile. Commuters and their municipalities failed to see that their railroads were no longer financial colossi with unlimited ability to run trains at a loss or pay ever-mounting tax assessments.

The flood of legislative proposals today to do something about "the railroad problem" doesn't necessarily mean that all parties have had their vision restored. Most of the legislative remedies call for some sort of support from the public purse. In that method of relief there is implicit the threat of eventual government ownership, unless such support is handled with the greatest of care.

A community with a sick railroad on its hands most certainly should be concerned. That concern may properly extend to wishing to ease its tax burden, trying to equalize its opportunities and otherwise bring it back to at least a state of convalescence. However, such a community has the right to expect the patient to be cooperative. The complexities of railroad finance, unfortunately, baffle all but a very few experts. So, if the railroad must be a welfare case, the public must insist that its financial house be put into understandable order, on a welfare budget, laying out money for essentials only. The community should also satisfy itself that the railroad's competitors are making their fair share of tax contributions. In many cases a careful appraisal of the economic worth to the community of such projects as municipal airport aid for private flying, subsidies for helicopter service, reconstruction of bridges and underpasses to meet bigger truck clearances may result in more realistic disbursement of tax funds and might free more of such funds for essentials. Studies of the contribution that highway transport makes to the overall tax situation might also prove enlightening and useful.

Nor should a community undertaking to aid a railroad shy away from a very careful examination of the railroad's labor situation. A wasteful wage pattern, dating back over forty years, has been one of the contributing factors to the economic ill health of the rail carriers. Railroad management, too, has often been notoriously shortsighted and inept in its labor relations programs. Surely if the public is to put up funds or give tax concessions to keep a railroad functioning and serving a community it cannot tolerate further featherbedding by either railroad labor or management.

We posed the question "How much support should an essential public service expect from the tax-payer?". We found no positive answer to that question, but did try to point out some of the considerations that should be kept in mind. In very general terms, the public service that the railroads can and should give deserves only that amount of support that will make it possible to perform the required service efficiently under honest, aggressive private management. The terms of any agreements contemplating such support must be related to the community's total tax and general fund position and must include a review of its entire transportation policy. Certainly every effort should also be made to make sure that such aid is not made a permanent policy and that in every way possible it avoids a long term commitment which could lead to socialization. No form of public aid can be a panacea. It is strong medicine and as such, dangerous, as well as habit forming. Our eastern railroads, however, are in such a state that some form of public consideration seems to be indicated.

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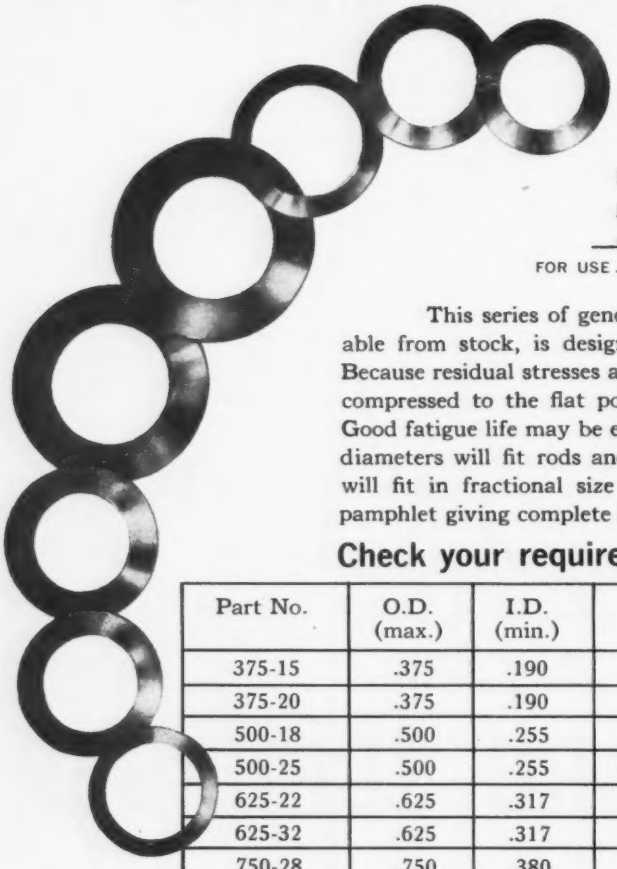

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625-22	.625	.317	.022	.042	.032	70	105
625-32	.625	.317	.032	.048	.040	145	260
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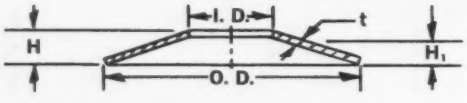
1000-50	1.000	.505	.050	.075	.062	340	600
1250-40	1.250	.630	.040	.082	.061	230	330
1250-62	1.250	.630	.062	.092	.077	475	870
1500-45	1.500	.755	.045	.093	.069	284	400
1500-72	1.500	.755	.072	.107	.089	665	1180



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Wallace Barnes Division

Bristol, Connecticut

Associated Spring Corporation

58408

Public Relations

By Charles E. Reiche
Public Relations Director

Does Your Left Hand Know What Your Right Hand Is Doing?

♦ THE public relations director of a Connecticut industry recently was handed a batch of material spelling out the background of a new man who was taking a top management post at the company. This material, of course, was to help the PR director prepare news releases on the new official.

"I now know a lot about this man," the PR director says, "at least so far as his background is concerned, and I have known ever since I came here what his job entails and what his department does. So far as I know, though, he doesn't know anything about me or our public relations department."

He went on to say that he feels strongly that any company should clarify for all its management force what each sector of the company's operations covers, how it works, what its objectives are and who the key personnel are.

It seems to this writer that this man has a point. A company which claims to believe in the concept of public relations is traveling on a one-way street if it keeps its own PR operation shut off from the main flow of policy and uses it only as a subsidiary, and possibly third-rate, phase of management.

Public relations, in short, and the people who practice it for you shouldn't be tucked away in a handy broom closet but should be an active part of your team. Above all, every section and individual on the management team should be thoroughly conversant with the PR operation and just as knowledgeable about it as the PR staffers are about the entire management personnel and functions.

Our Suffering Language

It seems to be an article of faith with businessmen that there must be a distinct cleavage between the spoken and the written word.

Thus the management man who is highly articulate in the country club locker room or in his own house when he manages to get the floor feels that the moment he turns to translating his thoughts into print he must become entangled in stereotyped idiom and in turgid semantics.

Why should this be so? Why should an otherwise sensible man who can describe the hazards of the 12th hole in rich, forceful language (and not necessarily profane, either) turn to stultifying and inept phrases when he wants something written? This is a curious phenomenon and one which deserves the study of a latter-day Kinsey whose tastes and interests are literary.

It may well be that the germ which lies behind this paradox is the fact that a businessman who speaks in a free-wheeling way which all can understand quickly and clearly believes it is undignified to write in the same manner. If this is so, the businessman is not eminently bright. The function of any language is primarily to communicate, whether this is done orally or in writing. Obviously the most effective way to communicate is the way in which most people understand us quickly and thoroughly. Standard business writing is usually mere jargon or, worse, obfuscation which reminds many of us of wet sponges.

The billowing and relentless power of Churchillian prose is well beyond the reach of the majority if for no other reason than that few of us have as much to say as Sir Winston. That being the case, there isn't much reason for us to indulge in prose which we make heavy-handed simply because we aren't a Churchill.

It has become more and more fashionable in late years to laugh at newspaper style . . . who, what, when, where, how and why . . . but the fact is no one yet has hit on a better way of communicating. Such style done well is often severe, not to say stark. But it tells people something they can

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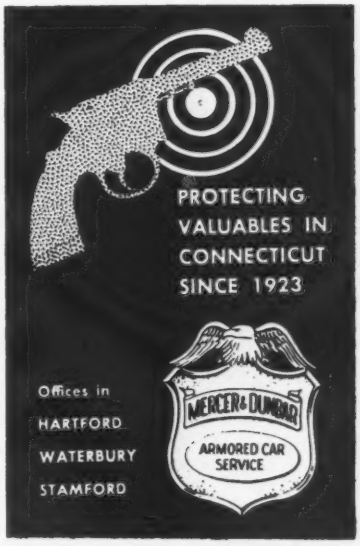

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The Women

According to a recent survey conducted by the Industrial Relations News in New York many women who are veteran employes take a cool view of long-term service awards . . . watches, jewelery or other impedimenta. The reason? They, and others, are reminded of their age if you make too much fuss over their long tenure with a company.

Scrolls, pins and other tributes, the survey shows, hang the "old timer" label on Les Girls, a label they don't like much. One management consultant who participated in the survey said "The more gold and diamonds a worker sports, the farther over the hill she is."

If you decide you want to hand out tokens for long service, Industrial Relations News suggests you give the women bouquets of roses or the choice of sterling silver gifts for use at home. One company in the sulphur business christens its barges and other vessels with the names of employes who have 30 years of service. Why anyone would feel honored at having a sulphur barge named for him is a bit of a puzzle but apparently the help at that company likes it.

Banquets, the survey says, are also dwindling in popularity.

Science Aids Art

(*Continued from page 9*)

massed produced where possible and hand work kept to a minimum.

The very opposite is true of the tonal side of the business. Casting the pipe metal, making the pipes, and giving the pipes the correct tone and pitch, are hand operations that have been done in more or less the same way for hundreds of years, as indicated by old manuscripts in the archives of Austin Organs, Inc. This is not through any ultra conservatism on the part of the organ builder, but rather from factors too involved and complicated to describe in this story.

Skilled craftsmen are at a premium and, for the most part, must be trained within the organization. Finding men temperamentally suited, with the patience and ability to learn, and then training them, is a long and tedious process. Austin has been fortunate in securing the services of a number of skilled organ builders from overseas, and for many years the company has been prepared to pay the expenses to this country of anyone with the necessary qualifications who could obtain clearance papers. Organ building is not a lucrative profession. Most of the leading employees are organ builders because they prefer the work and the rewarding sense of achievement it brings. The company is fortunate in enjoying an unusual degree of loyalty from its employees. There is probably no other organ builder of comparable size to Austin where the principals of the firm are in such close touch with production.

Background of Official Family

Frederic B. Austin, president, was mainly responsible for organizing the New Company. The growth and present prosperity are due to his hard work and foresighted leadership. Mr. Austin came to this country from England and joined the Old Company in 1920, at the age of 18 years. He has the renowned Austin clear thinking and mechanical ability which makes him in every way a worthy successor to his uncle, John T. Austin.

Percival Stark, vice president and treasurer, joined the Austin Company in 1914. He was in charge of the drafting department and the engineering of the organ layouts. Until 1935 he was closely associated with J. T. Austin, working in collaboration with him in the development of many of the original Austin mechanisms and in building the production machines. Mr. Stark joined the present Company in 1947 as vice president. He is not only a competent organ builder, but an exceptionally accomplished engineer.

Richard J. Piper, vice president & Tonal Director, joined the company in 1949, after considerable experience in England where he was associated with the tonality of many of the famous English Cathedral organs. Mr. Piper has charge of the tonal side of the business and has made a definite contribution to the tonal excellence of the Austin organ.

National Standing of the Company

One of the three major organ builders in the United States, Austin's method of construction and efficient production enables the company to outproduce many firms employing more people. Austin organs are installed in churches of all denominations and in college auditoriums. Sales are fairly evenly distributed from coast to coast, but most sales are made in the East because of the location of the company. Although very few organs are exported, Austin organs are to be found as far away as Palestine, China and Japan. Sales representation is nationwide, being handled for the most part by practical organ builders, who service the organs after installation in their territory.

Size Range and Techniques

Pipes that produce the sound vary in number, according to size, anywhere from approximately 500 to 15,000 pipes. The effective lengths of the pipes are from ¾" to 32'–0". Most of the smaller pipes are made from a composition of tin and lead, known as spotted metal. Zinc and wood are also used. The cost of the smallest instrument the company builds today is about $12,000, up to almost any figure. The largest organ on order at this time is $172,000, with the average instrument selling for approximately $48,000.

Approximately 65% of the cost of an organ is labor. Only the very best materials are used, from the solid silver contacts to the ivory keys. The Austin organ is custom built in the true sense of the word. The designs must take into consideration many factors, such as size and seating capacity of the church, the musical program, acoustics of the building, location of the organ, and many others.

Erecting crews are sent from Hartford to all parts of the country to install the organs. When the physical structure is completed, tonal experts from Hartford "take over" to tune and tonally regulate the organ to suit the acoustics and musical requirements of each individual church.

As of March, 1960 Austin has a backlog of two years orders for new organs, which includes many large instruments, such as the organs for St. Joseph Cathedral, Hartford, and for the Fifth Avenue Presbyterian Church, New York City.

Accent on Artistry

A unique feature of the pipe organ is that while everything around us seems to grow more commercial, organ building gets less commercial. Many a lucrative contract is rejected where a design demanded by the purchaser is thought unworthy of the company, or where placement of the organ proposed by the architect would make a successful installation impossible.

Austin believes that every organ it builds should make a definite contribution to the culture of our time. Since finances do not permit extensive advertising, every organ built must make its contribution to future sales.

Leading organists recognize that the Austin organ enjoys the best principles in tonal design now being produced in this country. Its latest work has excited enthusiasm from many who are exceptionally well qualified to judge.

The prestige and prospects of Austin Organs, Inc. has never been greater than today. Officials of the company look forward with complete confidence to a successful and growing future.

WHAT HAPPENS WHEN NO. 5 BLOWS ITS STACK?

When a critical piece of machinery breaks down, it can knock production for a loop. But this needn't mean loss of profits, or paying overhead on unproductive machinery.

With Travelers Boiler and Machinery insurance you're triple-protected against loss. 1. Travelers safety experts inspect equipment and promote preventive maintenance. 2. Travelers pays for repairs on machinery covered by your policy. 3. Travelers compensates you for loss of profits and overhead during unscheduled production shutdowns.

Your whole plant belongs under The Travelers umbrella! It's the modern way to plan insurance—one source—one man to see. And you can pay for all your Travelers insurance with one monthly check. Talk it over with your Travelers Agent or broker

'One plan, one man, one monthly check to pay—that's the modern Travelers way!"

THE TRAVELERS
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DSC Accutronic * High "C" FLAT CR SPRING STEEL

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What High "C" Stands For

Our Detroit and Eastern mills produce nothing but DSC STRIP in Low Carbon and High Carbon analysis. When the carbon is over .25% (minimum) we call it High "C"—or FLAT CR SPRING STEEL.

Why Accutronic?*

The screw-down motors on our 4-Hi Reversing Cold Reduction Mills control the rolls by electronic feed-back (Industrial Nucleonics Accu-Ray® System). Purpose—to hold thickness within pre-set tolerances *as ordered* and *while the steel is being rolled.* The DIRECT and RELATED results are level gauge, even-temper and uniform finish—the inherent fabricating advantages of DSC Accutronic* STRIP.

How DSC High "C" Comes To You

The steel comes to you either "hard rolled untempered" or "soft annealed." You then fabricate or heat-treat into your job the springiness, wear-resistance or other physical properties you need.

*Accutronic** STRIP ROLLING RANGES

	LOW CARBON	HIGH CARBON
CARBON	.25% max.	over .25% min. to .80% max.
THICKNESS **	up to about .187"	up to about .187"
WIDTHS (slit or rolled edge	up to 23 15/16"	up to 22"
TEMPERS	ALL	Hard Untempered or Soft Annealed

FINISH—Controlled Satin or DEEP-ROLLED *RBF* BRIGHT COILS—CUT LENGTHS

**Standard or restricted thickness tolerances

*Accutronic is a DSC trademark descriptive of DSC Cold Rolled Sheet and Strip products

What Gives DSC High "C" Its "Workability"?

Frankly, it's the way DSC stripmakers combine cold reduction, annealing and finishing procedures to suit the particular requirements of your job—the product of 37 years of stripmanship.

Typical High "C" Applications

- Apparel snaps and closures
- Business machine components
- Bottle cap and can openers
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- Spring clips and clamps
- Plates and kindred transmission components
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Our Job—To Help Ease Yours

Our regular delivery schedule is two to four weeks—from the hot bands to the finished strip, customized to your requirements. In emergencies . . . about 10 days. Sometimes even better.

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With Our Advertisers And Their Agencies

♦ A SEMINAR on Packaging and Materials Handling was conducted recently by J. A. Wittstein of New Haven, manufacturer of corrugated and solid fibre boxes and merchandising displays. Members of the Connecticut Purchasing Agents Association from Meriden, Middletown, Southington and Wallingford attended the one-day seminar at The 1711 Club, Meriden.

Mr. Wittstein has had more than 39 years experience in design, engineering and sales in the fibreboard industry. He is a direct mill representative for 100% totally integrated mills, as well as design studios manufacturing Merchandiser-Shippers and Point of Sales Shipper Displays.

A graduate of Sheffield Scientific School, Yale University, holding a Bachelors Degree in Mechanical Engineering in 1920, Mr. Wittstein was also the winner of the Aurelian Honor Society Competitive Prize for original machine design; served in the U. S. Navy during World War I, and attended Government sponsored courses at the Forest Products Laboratory, Madison, Wisconsin, as a civilian specialist during World War II. A professional member of the Society of Packaging and Materials Handling Engineers, he attended short courses at the University of Illinois and the Massachusetts Institute of Technology.

Among the specialized services offered by Mr. Wittstein are color coating, embossing, die cutting, and special finishes on fibreboard pallets and tray and bin packed pallets, wax and polyethylene coated boards, tear strip cartons and opaque single face printed tubes and containers, and four-color process flexographic printing to reproduce seven color illustrations directly on corrugated.

♦ SAFE DRIVING awards received by 995 drivers of the Suburban Propane Gas Corporation, Whippany, New Jersey, and its subsidiaries have totaled $20,309, the company has announced. Each of the men also received a pin embossed with the number of consecutive years that he has been recognized as a safe driver. Among the winners were two with a record of 19 years and 184 others with 10 or more years of driving excellence.

Awards, based on standards established by the National Safety Council, are presented annually to employees who complete a year of driving a company vehicle without a chargeable accident. They are made not only on the basis of good driving in traffic, but also the driver's regard for the customer's property when he makes a delivery, service or sales call.

Suburban Propane Gas Corporation distributed LP-Gas (also known as bottled gas or propane) to more than a half million homes beyond the gas mains, as well as thousands of farms, boats, business, industrial and institutional establishments. Propane and a complete line of gas appliances are distributed in 19 eastern and central states from 90 district plants.

♦ A NEW 14-page brochure titled "The Changing Role of Industrial Advertising" is being offered by O. S. Tyson and Co., Inc., New York advertising agency.

The two-color brochure contains a

Representing:

TRICO

Low-Carbon Ground Steel Plate

Prime quality 1020 Steel Plate in random sizes, and thicknesses ranging from 3/8" to 3½". Your selection at yard—8¢ per lb.; torch cut to specs—10¢ per lb. Free cutting 1116 steel plate also available. Additional services include: Blanchard grinding (to 84"), edge milling, planing and stress relieving.

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Precision Expanding Mandrels

Expanding Mandrels to accurately hold work for machining, grinding and inspection—available in a range of sizes from ¼" to 7" diameter. Concentricity guaranteed to .001", .0005", or .0002" T.I.R. Wide range of expansion enables one LeCount Mandrel to take the place of several sizes of other type mandrels and arbors.

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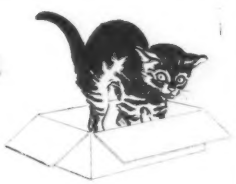
Diamond Grinding Wheels

Complete line of superior quality resin and metal bonded diamond grinding wheels with either natural or "man-made" diamonds. Customed engineered to your particular job and sold on a guaranteed performance basis. Delta Diamond Wheels have a proven record for outperforming many other wheels—yet, they are priced lower than most.

THE GRIMES ENGINEERING CORP.

38 Cody Street, West Hartford, Conn.

How Do You Skin YOUR Cat



In today's competitive clamor PACKAGES that protect and are planned to sell frequently emerge as CATS — to the harassed designer. To him a cat is a cat and a deadline to meet is one with its hair on end. To resolve the complexities of engineering, sales and merchandising requires all the things you are — and then some. To help you skin that cat ROURKE-ENO SALES ENGINEERS, competent and eager are constantly on call. The mills we represent offer the most complete line of "SKINNING" materials and will help us both secure the knot in that twisting tail long before your potential market gets scratched by your rival.

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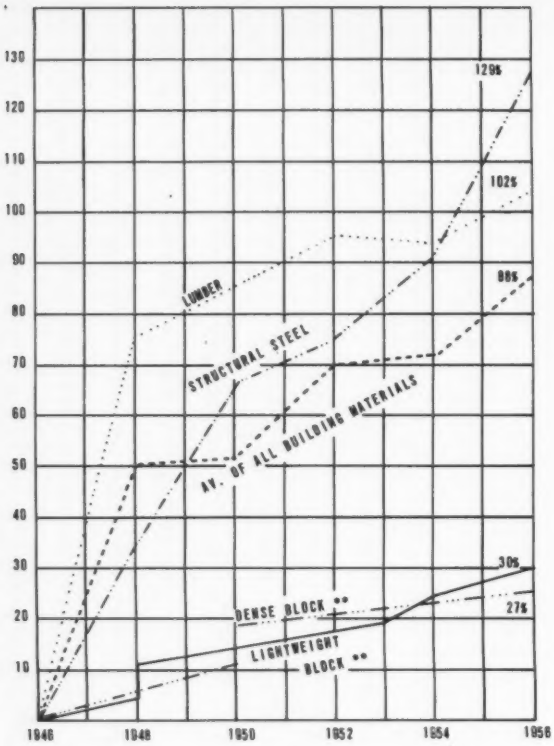

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in masonry materials may be for a complete new building, or simply for plant alteration or additions. Whichever it is, you can simplify your construction problem — and at the same time save time and money on it — by specifying *Plasticrete* on all your masonry units.

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Dox floor & roof plank	chimney bloc & caps	Grille bloc
channel plank	manhole & catchbasin bloc	Dur-O-waL reinforcing

* *made by the STILES CORPORATION, Plasticrete's clay products subsidiary*

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HAMDEN	HARTFORD	NORTH HAVEN	WATERBURY	WILLIMANTIC
ATwater 8-1641	CHapel 9-6515	CEdar 9-1621	PLaza 5-2259	HArrison 3-7249

report of a study conducted by the agency on economic developments affecting industrial selling today. One of the findings of the study: "The aim of industrial advertising today is to prevent all sales calls except calls on 'fully ripened' prospects."

A series of seven graphs is used to illustrate trends that are taking place in the nation's economy and in the field of industrial marketing. A section of the report, illustrated by bar graphs, analyzes trends that are taking place in the area of personal selling, including the cost of salesmen's calls.

The concluding section describes the new role an advertising manager must play to meet the changes that are taking place in industrial marketing. Listed are seven areas where a company may look to initiate a process of automation in its selling operations. Three illustrated case histories showing typical "automated" operations are presented. Finally, several new concepts are offered relating to industrial communications and the function of advertising.

Copies are available from O. S. Tyson and Co., Inc., 230 Park Avenue, New York 17.

Corporate Power

(*Continued from page 13*)

Concern is also expressed that the corporation possesses some secret power over the consumer. This gift, it seems, can force the customer to buy whatever merchandise the corporation wants him to buy, against his best judgment. This, too, is seen as an infringement on liberty. The method through which this magic is achieved is advertising—all-powerful and hypnotic. Such an attitude assumes that the consumer is a helpless idiot with no discrimination and that the corporation has supernatural powers. A casual look at an experienced shopper making a decision to buy or not to buy, or a glance at the daily list of business failures, refutes this outlandish charge.

This stream of appraisal and criticism of business and its impact on liberty is at flood tide today. In books, magazines and newspaper articles, TV programs and other media, the nation is deluged with warnings about conformity, loss of individuality, restrictions on freedom. Historically, social criticism has often played a useful and constructive role in U.S. life. But, just as often, it has tended to exaggerate the dangers in order to get its point across more dramatically. Currently, these attacks are frequently rooted in fancy rather than fact. Many of the examples cited as restrictive are agreements which all parties voluntarily and

freely agree to. Or they are based on assumptions of corporate philosophy and practices which have no basis in fact.

Absolute liberty, of course, does not exist. All of us operate under restrictions laid down by law, government, ethical and moral standards. Without these restrictions, life would be chaotic and unendurable. But, within the framework of these restrictions, the industrial employee in the U.S. enjoys more liberty and fewer restrictions than ever before in history. And the threats to his liberty by the corporation are largely illusory. For, the corporation, like the individual, would wither without the liberty inherent and ingrained in our democratic form of government. A loss of liberty in any sector of American life today would be equally harmful to the progress, health and success of all American industry.

We Need To Improve Industrial Selling

(*Continued from page 11*)

readership but in sales and believership!

4. Merchandise every advertising effort, not only to customer and prospect, but to sales force and even to every individual in your plant.
   a. Pre-merchandise and post-merchandise every trade show appearance. Don't expect the hours on-the-floor to pay the freight by themselves.
   b. Make the most of "sales tools," reprints, pre-prints and keep a constant sales liaison through publicity, technical bulletins, memorandums, sales letters and other "headache projects" or "collateral material" that many larger agencies shun.
5. Prepare and get saturation market coverage for the best organized industrial catalog in your market. Your catalog should, in every detail, answer one prime requisite —MAKE IT EASY FOR THE CUSTOMER TO BUY!
6. Keep sales promotion budgets growing as sales grow. A healthy current sales picture does not justify relaxing your investment in tomorrow.

If the foregoing 6 steps are followed with expert guidance and sincerity, the cost of selling most surely will be lowered. As the effort and dollars and cents expended to make each sale decrease—the sales department, your only income producing department, will require that your whole industrial operation become more competitive, more productive, more profitable! *The End*

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- NICHROME
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- COPPER
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- MONEL
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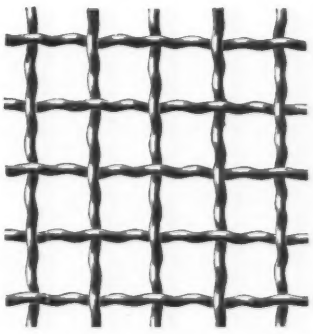

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AIR COMPRESSOR PUMPS

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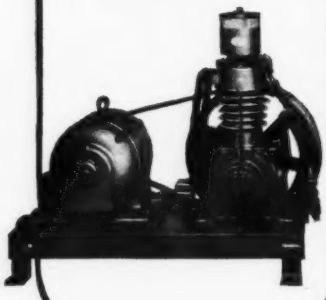

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Business Tips

Markets and Still More Markets

By CHARLES E. LEE
Marketing Department
University of Connecticut, Storrs

♦ CONNECTICUT is one of the Nation's foremost industrial producers. With 1.3 per cent of the national population she has, from 2.5 to 3.0 per cent of the industrial employment, one of the highest per capita incomes and a large variety of products known throughout the world for their quality and acceptability. This speaks well for the efficiency of her industry, the enterprise of her people, and the effectiveness of her trade relationships. Until recently, however, like many other Americans, Connecticut industrialists have not been greatly interested in foreign markets. While about 45 per cent of the state's factory employment in some 350 plants have produced goods suitable for direct export to foreign countries the value of those actually exported in 1958 was only 133 million dollars—about 5 per cent of the total production of these plants. A proportionate share of total U. S. exports, however, would have given Connecticut industries almost 3 times this dollar value in exports. In other words, there appears to be a market of well over 225 million dollars in foreign trade that Connecticut industry is neglecting to get for whatever reasons.

It is a well accepted assumption that a dollar of business directly attributable to waterborne commerce generates an additional dollar of business with multiplicative effects on employment and payrolls in the state. This in itself is a challenge to trade development if only an initial one. American exports are increasing; they grew from 10 billion dollars in 1950 to 21 billion in 1958. This rate of expansion proffers no inconsiderable challenge for the future. It would seem that American attitudes toward foreign markets are changing.

Some of today's toughest marketing problems are intimately associated with the changing "attitudes" of people. Attitudes are conditioned by many things —the past, the present, and particularly the hopes for the future. Many of the changes are primarily the result of highly dynamic forces presently operating in World affairs—conflicting ideologies, inequitable distribution of resources, population pressures, increased scientific and technical knowledge, better systems of education, greatly improved means of communication, the intensive and extensive development of transportation and last but not least, many new and stimulating kinds of goods in world markets, in catalogues and advertisements and so in the wants of people everywhere. Much of this adds up to hopes for the future—better living conditions, better health, longer life, and perhaps relief from some of its monotony.

In the past, American industrialists have been prone to regard underdeveloped parts of the world as occasional markets for surpluses and/or sources of cheap raw materials, rather than as aggregates of human beings who like ourselves are trying to live by satisfying as many wants as possible, but continuing, by-and-large, to want for most of the things that make life worthwhile. In spite of recent improvements in incomes, relief programs, etc., some two-thirds of the world's population is still in need of the basic necessities of life. In many instances, this means low purchasing power, lack of even the most elementary sanitary facilities, inadequate housing, little furniture, no laundry equipment, no refrigeration, no transportation, little or no medical services, no milk, no canned foods, insufficient clothing—but, of course, all of the needs and most of the wants that motivate any active American. What can the industrialist in the richest state in the richest country in the world do about it? This would seem to be a problem for a "Woolworth" with many times his imagination and genius. But if we don't do something about it, others will, and in fact are and we may not be happy with the result. This is just one of the pressures that is changing our world.

Undoubtedly, there are new markets many of which may be reached with goods we now produce. Others, too, can be reached, but not with the products and services we make for American consumption. If we are to get any appreciable share of these markets, we must begin with the market itself—the consumer; his wants; his willingness to buy; his ability to pay. It is only good sense to assume that the attitudes, motives, and aspirations of people in Canada, Mexico, Central and South America, India or Africa are as important to the sale of commodities as they are in Connecticut or Alabama. The enterprising industrialist looking for foreign markets will find out what they want and then produce and market it their way at prices they can pay: This means a thorough-going research approach but since when has this been a new idea to Connecticut industrialists. We have the most efficient mass production facilities in the world. We have the know-how, the techniques, the selling ability and above all, the adaptability to give the world anything and just about everything it desires at whatever level. Time is really the

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scarce element. We must do it before the Russians, the Germans, and the Japanese beat us to it and it may be later than we think. Attitudes, perhaps the wrong attitudes, are growing while we wait.

Productive Purchasing

(*Continued from page 17*)

chasing is organized to take full advantage of the appraisal techniques.

Organizing for Productive Purchasing can be conveniently divided into two areas: (1) integrating the purchasing effort with other functions of the business, and (2) streamlining purchasing procedures to free the Purchasing operation from detail, allowing more time for evaluation and decision-making.

INTEGRATION OF PURCHASING EFFORT with the efforts of other business functions has, in recent years, brought the role of Purchasing to the position of a vital business function. A high level of such teamwork is required for Productive Purchasing. The Purchasing Agent obviously cannot sit at his desk, checking off the product values and added values he needs. Many of these needs can best be determined by people in other areas of the business. Their contributions on a planned basis can make purchasing evaluations meaningful.

Manufacturing is interested in the supplier's delivery performance, his after-sale service, his maintenance assistance. Engineering is concerned with the supplier's quality control, his product-development program, his system co-ordination capabilities. Finance can furnish advice on the supplier's financial stability, his billing policies, his credit arrangements. Marketing is interested in the supplier's market-development program, his selling aids, his product acceptance by industry.

The responsibility for initiating this co-operative effort will rest upon the Purchasing Agent. A good way to start a planned, integrated program is to establish formal channels of communication with the other business functions. The Purchasing Agent might ask Engineering, Marketing, Finance, and Manufacturing to appoint men responsible for liaison with the Purchasing operation. Using this panel of experts for a two-way channel of advice and information, the Purchasing Agent can make his purchasing program truly productive.

TIED CLOSELY to the need for interfunction teamwork is the need for more efficient purchasing procedures.

(*Concluded on page 68*)

Accounting Hints

Contributed by

The Hartford Chapter National Association of Accountants

Ed. Note: This month's contribution to this department explains how bookkeeping was done in England in 1876, thus giving an interesting comparison with the current methods.

♦ BOOKKEEPING is the method of recording business transactions in a set of blank-paper books kept for the purpose, by all classes of traders, as well as in various kinds of establishments. Viewed as an art, B. was first brought to comparative perfection by the merchants of Genoa and other cities in the north of Italy; and followed up by the merchants of the Netherlands, it has been brought to England, in which country, as also in the British colonial possessions and the United States, it is now carried on in the best manner by professional accountants and skilled clerks in counting-houses. The books employed are usually of a folio size, strongly bound. For security against loss, it is customary to remove them every night from the desk and ordinary shelves in the counting-house to a fire-proof safe.

Although reduced to an accurate system, the details of B. necessarily differ according to the extent and the nature of the transactions to be recorded. In all kinds of B., however, there are or ought to be certain pervading principles to which we shall in a brief way refer. The object is to keep an account of the goods a trader buys and sells, and the money he receives and pays away; also to show, at short and periodic intervals the exact state of his affairs—what are his *assets* (property and sums of money owing to him), and what are his *liabilities* (debts owing by him and other pecuniary obligations). On the proper accomplishment of this object may be said to depend the stability and the reputation of the trader. Such is obviously the case, for, unless a person keep an accurate set of books to enable him to ascertain how his affairs stand, he must in a great measure be proceeding upon vague, and possibly erroneous conclusions; the result of which may be insolvency or bankruptcy, and loss of good name. In many instances, bankruptcy is traced to no other cause than the keeping of an insufficient set of books and even keeping these badly. Viewed as credentials, a merchant's books are invested with a certain sacredness of character. Such a set of them is to be kept as will at all times admit of a satisfactory statement of affairs being made up. On this account, they require to be kept with great nearness, accuracy, and perspicuity. As a rule, there should be no blotting, no scraping out of words or figures, and no tearing out of leaves—the records are to be beyond suspicion of falsification.

Single Entry—The simpler kind of accounting is called B. by Single Entry; the principal books used being the Day-book, Invoice-book, Cash-book and Bill-book, which are employed for recording the transactions as they occur, and a Ledger, to which the entries are afterwards transferred, under the names of the parties concerned. The method is called Single Entry, for the reason that the items are entered only once in the accounts in the ledger.

Day-book—The purpose of this book is to keep a daily account of all goods sold on credit—that is, goods not paid for at the time of being bought. The book is ruled with a date-line on the left-hand side of the page and with double money-lines at the right-hand side.

Invoice-book—This book, which is similarly ruled, is sometimes called the Credit Day-book. It is used for keeping an account of all goods bought on credit. For the sake of brevity, some

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dealers merely enter the name of the creditor, the date, and the amount; and preserve the invoices, by docketing and tying them up in parcels, or by fastening them into a paper-book prepared for the purpose. In any case, the invoices should always be preserved.

Cash-book—In this is kept an account of all cash received and paid, and of discount received and allowed. It is ruled for date and double money-columns on each page. At the close of business for the day, the amounts on both sides are summed up and balanced.

Bill-book—This contains an account of all "Bills Receivable" that is, bills of which the trader is to receive payment; and "Bills Payable"—that is, bills which he has to pay. Sometimes, however, in the case of large concerns, these two classes of bills have each a distinct book.

Ledger—This is the great book of the concern. It comprehends an abstract of the entries in the day-book, invoice-book, cash-book, and bill-book, the whole collected in a methodic form under the names of the various persons, whether standing in the relation of debtors or creditors to the trader; and not only so, but an account of the trader's own private debit and credit. The copying of items from the day-book, etc. into these ledger accounts is termed posting. According to the ordinary practice, books are posted after short and regular intervals—not longer than a month. Having books at all times well posted up is an acknowledged mark of a good man of business. By means of a well-posted ledger, and an inventory of stock and other assets, drawn up with a prudent regard to realisable value, the trader is able at the end of a year to make a Balance Sheet, or condensed statement of his affairs.

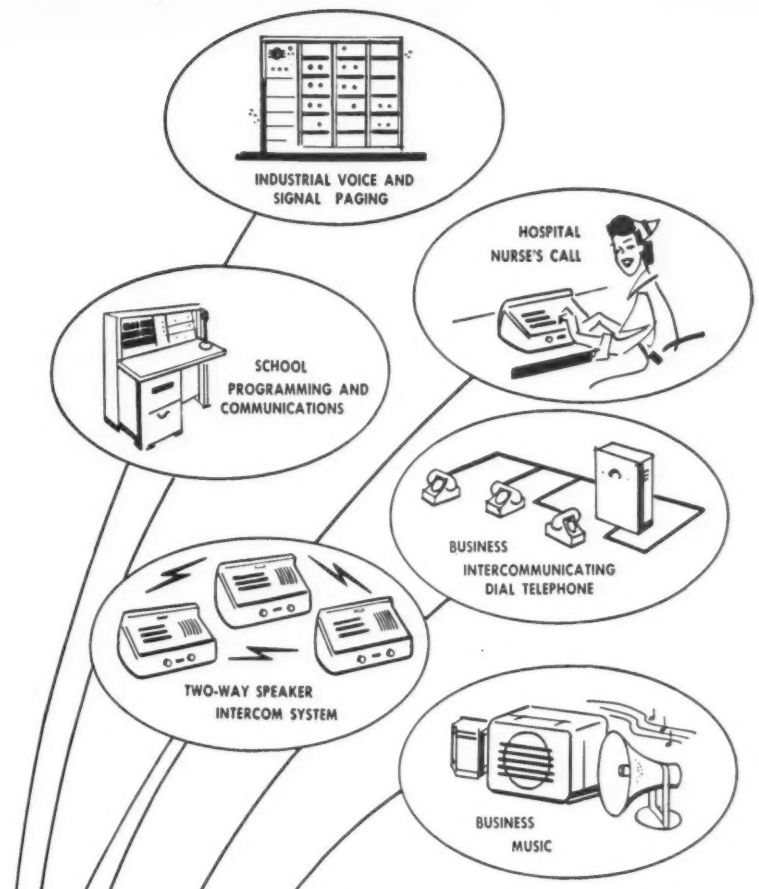
With such a set of books and a few additional memoranda, a trader could doubtless strike a balance at the end of the year. He could see how much was owing to him, how much he was owing to others, how much he had spent, and how much would remain over or how much would be deficient, after all accounts pro and con were settled. But by this elementary routine he could establish no satisfactory check on different departments of his business and for large and complicated concerns, the system if not absolutely valueless, would prove exceedingly imperfect. What the wholesaler-trader wants is a process of check—one book checking another—the whole thing reduced to such a rigorously methodised system of entries that every fraction is thoroughly accounted for. No doubt, to effect this elaborate and minute system

of B. a considerable expense is incurred for clerks; but in large establishments this is of small account in comparison with the advantages that are secured.

Double Entry—The method of B. which has been so called is only an extension of that already noticed. The distinct peculiarity in double entry chiefly concerns the ledger. Its object is a system of check to be effected by entering transactions in the ledger twice—first to the debtor of one set of accounts and then to the creditor of another set. In making the two entries, one is posted to an account under the name of the debtor or creditor, and the other is posted to an account under the head of the goods that have been bought or sold. Take, for instance the article sugar. Say, the trader purchases a hogshead of the article from A. Brown & Co., and then turning to the folio headed "sugar", he enters it on the Dr. side of the account as bought from A. Brown & Co. In the same way, when the hogshead is sold to E. Fraser & Co., it is entered first to the Dr. of these parties and then to the Cr. side of sugar as sold to E. Fraser & Co. By this system of double entries, one the counterpart of the other, the one set of accounts constantly checks the other set; a trader can also ascertain how, when, and at what prices this property has been disposed of.

Acknowledged to be the triumph of accountantship, B. by double entry, or by the Italian method as it is sometimes called, is not an entire safeguard against frauds and fallacies in the conducting of commercial operations which, independently of every technical aid, require to be sustained by constant integrity, vigilance and discretion. Among the fallacies in the method of keeping books which are observed to sap the stability of the most gigantic concerns, are two so conspicuous as to demand our notice. The first consists in including bad or nearly worthless debts in the periodical lists of assets. The second is that of not estimating stock at its realisable value only. This last may be said to be a common error among traders, many of whom, without any evil intention, and simply from want of prudent consideration in making due allowance for depreciation of property, delusively and gradually slip into a condition of hopeless insolvency.

B. forms a department of school education in connection with penmanship and arithmetic. There are various useful treatises on the subject, with forms for day-book, ledger, and other books. It is proper, however, to add, that no method of school instruction can supersede the practical knowledge which is to be procured only in a busy and well-conducted counting-house.



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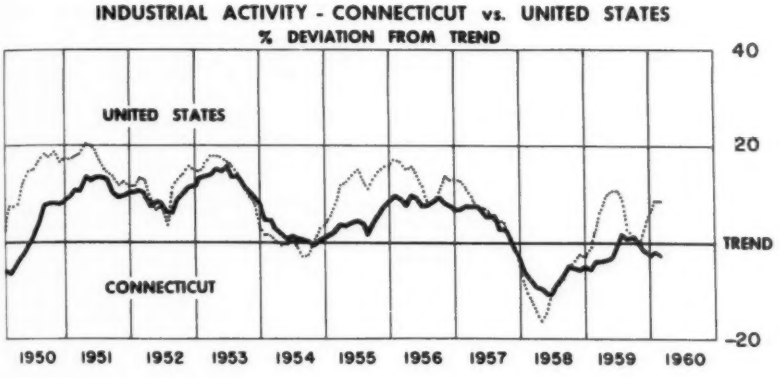
CI-5

Business Pattern

A comprehensive summary of the ups and downs of industrial activity in Connecticut for the thirty day period ending on the 15th day of the second previous month.

Connecticut Business Dips



♦ THE Connecticut Index of Industrial Activity declined in February to −2.6%, the lowest level since May 1959. Decreases in manufacturing employment, average hours, and construction employment more than offset a small increase in electric power sales. Connecticut business so far in 1960 has not as yet approached the 1959 highs of last summer when average hours and electric power sales were both strong.

The U.S. Index, at +9.0% in February, was unchanged from January. Production was strong in most areas, but auto and steel cutbacks were enough to cause a leveling.

The national situation is still mixed. In February, unemployment dropped and personal income rose a bit to a new record. Late March security prices were slightly higher.

On the other hand, industrial production eased a trifle in February. Auto and steel ouput and short term interest rates were trending lower in March.

Employment

The table below shows some of the manufacturing employment changes which have occurred over the last three years in Connecticut's ten largest labor market areas. We are comparing January of each year to avoid seasonal differences.

Total factory employment has not fully recovered from the 1957-58 business decline. In January this year, it was 30,000 below January 1957 with the weakness extending to most areas. Only Stamford, Norwalk and New London of the "big ten" have shown employment gains over the three year period.

Since January 1959, all but one of the areas have shown some improvement. Of the ten large labor markets, New Britain and Stamford have improved the most. Hartford, Bridgeport, New Haven and Waterbury, collectively accounting for 54% of all state factory workers, have made rather moderate gains. Thompsonville has registered a 5% drop from a year ago, mainly because of aircraft cutbacks.

Connecticut Sales Tax

Connecticut sales tax revenues, which account for ⅓ of all state tax receipts, are a reflection of consumer and industrial buying. Seasonally adjusted sales tax revenues continued their 2-year uptrend in the last quarter of 1959, reaching $19.2 million. This was only a little below the $19.3 million record of the second quarter of 1957. For 1959 as a whole, sales tax receipts reached a new high of $75.7 million. This was 3% above 1957 and 10% above 1958.

A recent forecast looks for 1960 consumer spending in the United States to be up 6% from 1959. If this happens in Connecticut, our 1960 sales taxes should top $80 million.

Inventories and Sales

Changes in manufacturers' inventories contribute to changes in the total level of economic activity. In January, manufacturers' inventories rose to $53.2 billion. This continued the post-recession recovery which the steel strike had interrupted temporarily in the second half of 1959. The January figure was the highest since December 1957 and was only $1 billion below the all-time high of August and September of that year.

Manufacturers' sales have been fluctuating narrowly since mid-1959, but picked up somewhat in the last two months to $30.8 billion. This was only $0.4 billion below the June 1959 record.

Although inventories are near an all-time high, they are not at present excessive in relation to sales. The inventory-sales ratio, at 1.73, is well below the 2.09 peak of March 1958 and there has been no sustained upward trend.

CONNECTICUT MANUFACTURING EMPLOYMENT

	Jan '57	Jan '59	Jan '60	% Change Jan '59 to Jan '60
Hartford	82,100	74,800	75,200	
Bridgeport	73,600	60,800	62,700	
New Haven	46,600	43,200	44,100	
Waterbury	40,400	37,900	39,200	
New Britain	27,300	23,500	25,300	
Stamford	21,500	20,800	22,500	
Meriden	22,200	19,600	20,000	
New London	15,200	18,300	19,600	
Norwalk	13,500	14,100	14,900	
Thompsonville	16,800	13,100	12,400	
Remainder of State	77,200	69,100	70,400	
Total State	436,400	395,200	406,300	

PRODUCTS AND SERVICES

THIS department, formerly listing only products made in Connecticut (from 1937 through 1959) is now available for listing not only products made in the state but also services available to industry through management, technical, research or other service organizations located in Connecticut.

Listing rate, $6.00 per listing for 12 monthly insertions, effective with the February 1960 issue. Listings are payable annually, in advance, or within 30 days after their first insertion.

Abrasives
Fuller Merriam Company The (Vitrified, Resinoid Bonded Grinding Wheels & Segments) West Haven

Absorbents
Nielsen & Sons Inc. John R (oil water and grease) South Windsor

Accounting Forms
Baker-Goodyear Co The Branford

Accounting Machines
Underwood Corporation Bridgeport

Adding Machines
Underwood Corporation Bridgeport

Adhesives
Polymer Industries Inc Springdale
Raybestos Division Raybestos-Manhattan Inc Bridgeport

Advertising Mats
Ads Inc Div CSW Plastic Types Inc (plates, services) Rocky Hill
Lockwood Sons Inc Wm H Hartford

Advertising Plates
Lockwood Sons Inc Wm H Hartford

Advertising by Representation
Hartz-Miller Associates Meriden

Advertising Specialties
H C Cook Co The Ansonia

Air Compressors
Spencer Turbine Co The Hartford

Air-Conditioning
Norwalk Airconditioning Corp South Norwalk

Air Conditioning Products
Dunham-Bush Inc West Hartford

Air Ducts
Wiremold Co The (Retractable) Hartford

Air Heaters—Direct Fired
Peabody Engineering Corporation Stamford

Air Impellers
The Torrington Manufacturing Co Torrington

Aircraft
Sikorsky Aircraft Division United Aircraft Corporation (helicopters) Bridgeport

Aircraft Accessories
Chandler Evans Div Pratt & Whitney Co Inc (Piston and Jet Engine Accessories—Carburetors, Fuel Controls, Afterburner Regulators, Pumps, Servomechanisms and Protek Plugs) West Hartford
Consolidated Controls Corp Bethel
Fenn Mfg Co The (Hardened and Ground Gear assemblies) Newington
Gabb Special Products Inc (filler caps—pressure fuel servicing systems) Windsor Locks
Hamilton Standard Div United Aircraft Corp (propellors and other aircraft equipment) Windsor Locks

Aircraft Engine Timing Tools
Gabb Special Products Inc Windsor Locks

Aircraft Engine Details
Hartford Machine Screw Co Div of Standard Screw Co Hartford
New Haven Trap Rock Co The Machine Products Div North Branford

Aircraft Engines
Lycoming Division Avco Canufacturing Corp Stratford
Pratt & Whitney Aircraft Div United Aircraft Corp (aircraft) East Hartford

Aircraft Fasteners
Hartford Machine Screw Co Div of Standard Screw Co Hartford
Scovill Manufacturing Company (PANELOC Aircraft Fasteners) Waterbury

Aircraft Instruments
Gorn Electric Company Inc Stamford

Aircraft—Repair & Overhaul
Airport Department Pratt & Whitney Aircraft Division Rentschler Field East Hartford

Aircraft Studs and Bolts
Hartford Machine Screw Co Div of Standard Screw Co Hartford

Aircraft Test Equipment
United Manufacturing Co Division of The W L Maxson Corp Hamden

Alumilite Aluminum Sheets
Leed Co The H A Hamden

Aluminum Awnings
Norlee Aluminum Prod Corp Bloomfield

Aluminum—Bar, Rod, Sheet, Plate
Frasse & Co Inc Peter A Hartford

Aluminum Bronze Castings
Knapp Foundry Company Inc Guilford

Aluminum Castings
Eastern Malleable Iron Company The Naugatuck
Newton-New Haven Co West Haven

Aluminum Die Castings
Mt Vernon Die Casting Corporation Stamford
Stewart Die Casting Div. Stewart-Warner Corp. Bridgeport

Aluminum Extrusions
Bridgeport Brass Company Bridgeport

Aluminum Forgings
Bridgeport Brass Company Bridgeport
Consolidated Industries Inc West Cheshire
Scovill Manufacturing Company Waterbury

Aluminum Ingots
Lapides Metals Corp New Haven

Aluminum Sand Castings
Bridgeport Deoxidized Bronze Corp Bridgeport

Aluminum—Sheet and Rod
Scovill Manufacturing Company Waterbury

Aluminum—Sheets & Coils
United Smelting & Aluminum Co Inc New Haven

Aluminum Windows
Norlee Aluminum Prod Corp (combination and prime) Bloomfield

Ammunition
Winchester-Western Div Olin Mathieson Chemical Corp New Haven

Anodic Coating
Fenn Mfg Co The (Dow 17) Newington

Anodizing
Aluminum Finishing Co. Bridgeport
Leed Co The H A Hamden

Anodizing Equipment
Enthone Inc New Haven

Asbestos
Auburn Manufacturing Company The (gaskets, packings, wicks) Middletown

Asarcon Bronze
Derby Castings Company, The Seymour
Knapp Foundry Company Inc (bushing & bearing stock) Guilford

Assemblies—Small
Barnes Co The Wallace Div Associated Spring Corp Bristol
Greist Manufacturing Co The New Haven
Hartford Machine Screw Co Div of Standard Screw Co Hartford
Stanley Humason Inc Forestville
J H Sessions & Son Bristol

Audio-Visual Equipment
Victor Animatograph Corp a div of Kalart (16mm sound and silent projectors; 35mm filmstrip and sound slide film projectors) Plainville

Automatic Buffing & Polishing Machines
Harper Buffing Machine Company The East Hampton

Auto Cable Housing
Wiremold Company The Hartford

Automatic Assembly Machines
Sperry Products Inc Danbury

Automatic Control Instruments
Bristol Co The (temperature, pressure, flow, humidity, time) Waterbury

Automobiles—Children's
Powercar Company Mystic

Automotive Bodies
Metropolitan Body Company Bridgeport

Automotive Parts
Bridgeport Thermostat Div Robertshaw—Fulton Controls Co (automobile thermostats) Milford
Echlin Mfg Co The (Ignition & Brake) Branford
Eis Automotive Corp. (Hydraulic Power and Mechanical) Middletown
Raybestos Division of Raybestos-Manhattan Inc (Brake Lining, Lined Brake Shoes, Clutch Facings, Automatic Transmission Parts, Fan Belts, Radiator Hose and Miscellaneous Rubber) Bridgeport
Terryville Manufacturing Co (Stampings for automotive parts) Terryville

Automatic Polishing and Buffing Equipment
Packer Machine Company Meriden

Automotive Tools
Eis Automotive Corp (Brake Tools) Middletown

Bag Sealing Machines
Derby Sealers Inc Derby

Bakelite Moldings
Watertown Mfg Co The Watertown

Balls
Abbott Ball Co The (steel bearing and burnishing) Hartford
Hartford Steel Ball Co The (steel bearing and burnishing, brass, bronze, monel, stainless aluminum) Hartford
Kilian Steel Ball Corp The Hartford
New Departure Div of General Motors (steel and steel alloys) Bristol
Pioneer Steel Ball Company Inc (steel for bearings, burnishing, graining; also brass, bronze and stainless) Unionville
Superior Steel Ball Co Inc (steel bearings & burnishing material) New Britain

Banbury Mixers
Farrel-Birmingham Company Inc Ansonia

Barrels
Abbott Ball Co The (burnishing and tumbling) Hartford
Enthone Inc (tumbling) New Haven
Esbec Barrel Finishing Corp (burnishing & tumbling) Byram
Hartford-Steel Ball Co The (tumbling) Hartford

Baskets—Wire
Rolock Inc Fairfield

Bearings
Automation Bearings (ball & spherical) Bridgeport
Barden Corporation The (ball) Danbury
Fafnir Bearing Co (ball) New Britain
Marlin-Rockwell Corporation Plainville
New Departure Div of General Motors (ball) Bristol
Norma-Hoffman Bearings Corp (ball and roller) Stamford
Torrington Co The Torrington

Bellows Assemblies
Bridgeport Thermostat Div Robertshaw—Fulton Controls Co Milford

Bellows—Metallic
Bridgeport Thermostat Div Robertshaw—Fulton Controls Co Milford

Bells
Bevin Brothers Mfg Co East Hampton
N N Hill Brass Co The East Hampton

Belt Fasteners
Saling Manufacturing Company (patented self-aligning) Unionville

Belting
Hartford Belting Co Hartford
Russell Mfg Co (High Speed Endless, Laminated Rubber, Roll Stock all types) Middletown

Bends—Pipe or Tube
National Pipe Bending Co The New Haven

Bicycle Sundries
Torrington Co The Torrington

Blacking Salts for Metals
Du-Lite Chemical Corp Middletown
Enthone Inc New Haven
Mitchell-Bradford Chemical Co Milford

Black Oxide Finishing
Black Oxide Inc New Britain

Black Oxide Treatment
Bennett Metal Treating Co The Elmwood

Blades
Capewell Manufacturing Company Metal Saw Division (hack saw and band saw) Hartford

Blast Cleaning Equipment
Pressure Blast Mfg Co Inc (Wet and Dry and Abrasives) Manchester

Blocks
Howard Company (cupola fire clay) New Haven

Blower—Centrifugal Type
Spencer Turbine Co., The Hartford

Blower Fans
Colonial Blower Company Plainville
Spencer Turbine Co The Hartford

(Advt.)

CONNECTICUT PRODUCTS AND SERVICES

Blower Systems
Colonial Blower Company — Plainville
Ripley Co — Middletown
Ventilating Supplies Inc — Plainville

Blower Wheels
Torrington Manufacturing Company The — Torrington

Blueprints and Photostats
Joseph Merritt & Co — Hartford

Boilers
Bigelow Co The — New Haven

Bolts and Nuts
Clark Brothers Bolt Co — Milldale
Hartford Machine Screw Company Div of Standard Screw Co — Hartford
Torrington Co The — Torrington

Boring Tools
Atrax Company The (solid carbide) Newington

Bottles
Feldman Glass Co. The — New Haven

Box Board
Bird & Son Inc — New Britain
Continental Can Co., Boxboard and Folding Carton Division — Montville
Federal Paper Board Co Inc — Montville, New Haven & Versailles
Lydall & Foulds Paper Co The — Manchester
New Haven Board & Carton Co The — New Haven
Robertson Paper Box Co — Montville

Boxes
Bird & Son Inc (corrugated, solid fibre, cleated containers) — New Britain
Connecticut Container Corporation — New Haven
Continental Can Co., Fibre Drum and Corrugated Box Division — Portland
Merriam Mfg Co (steel cash, bond, security, fitted tool and tackle boxes) — Durham
Warner Bros Co The (Acetate, Paper, Acetate and Paper Combinations, Counter Display, Setup) — Bridgeport

Boxes and Crates
City Lumber Co of Bridgeport Inc The — Bridgeport

Boxes—Folding
Leshine Carton Co — Branford

Boxes—Metal
Durham Mfg Co. — Durham
Merriam Mfg Co (Bond and Security, Cash and Utility, Personal Files and Drawer Safes) — Durham
Scovill Manufacturing Company (aluminum, brass, bronze, copper-cosmetic, drug, hair pin, ointment, pill, powder, rouge, vanity) — Waterbury

Boxes—Paper—Folding
Atlantic Carton Corp — Norwich
Bridgeport Paper Box Co — Bridgeport
Carpenter-Hayes Paper Box Co Inc — East Hampton
Continental Can Co., Boxboard and Folding Carton Division — Montville
Curtis & Sons Inc S — Sandy Hook
Folding Cartons Incorporated (paper, folding) — Versailles
Mills Inc H J — Bristol
National Folding Box Co Div Federal Paper Board Co Inc (paper folding) — New Haven and Versailles
New Haven Board & Carton Co The — New Haven
Robertson Paper Box Co — Montville
Warner Bros Co The — Bridgeport

Boxes—Paper—Setup
Bridgeport Paper Box Co — Bridgeport
Heminway Corporation The — Waterbury
Mills Inc H J — Bristol
Strouse Adler Company The — New Haven
Warner Bros Co The — Bridgeport

Brake Cables
Eis Automotive Corp — Middletown

Brake Linings
Raybestos Division of Raybestos-Manhattan Inc (Automotive and Industrial) — Bridgeport
Russell Mfg Co (all types, Fused Fabric, Durak, Wireback, Extruded) — Middletown

Brake Service Parts
Eis Automotive Corp — Middletown

Brass & Bronze
American Brass Co The (sheet, wire, rods, tubes) — Waterbury
Bridgeport Rolling Mills Company (coil, sheet, strip) — Bridgeport
Bristol Brass Corp The (sheet, wire, rods) — Bristol
Chase Brass & Copper Co — Waterbury
Miller Company The (phosphor bronze and brass in sheets, strips, rolls) — Meriden
Plume & Atwood Mfg Co The (sheet, wire, rod) — Thomaston
Scovill Manufacturing Company — Waterbury
Tinsheet Metals Co The (sheets and rolls) — Waterbury
Western Brass Mills Div of Olin Mathieson Chemical Corp (sheet, strip) — New Haven

Brass & Bronze Ingot Metal
Mitchell Smelting & Refining Co Inc — Botaford
Plume & Atwood Mfg Co The — Thomaston
Whipple and Choate Company The — Bridgeport

Brass, Bronze, Aluminum Castings
Derby Castings Company, The — Seymour
Victors Brass Foundry Inc — Guilford

Brass Goods
American Brass Company The — Waterbury
Plume & Atwood Mfg Co The (to order) — Waterbury
Rostand Mfg Co. The (Ecclesiastical Brass Wares) — Milford
Scovill Manufacturing Company (to order) — Waterbury
Western Brass Mills Div Olin Mathieson Chemical Corp — New Haven

Brass Mill Products
American Brass Company The — Waterbury
Chase Brass & Copper Co — Waterbury
Plume & Atwood Mfg Co The — Thomaston
Scovill Manufacturing Company — Waterbury
Seymour Manufacturing Co. The — Seymour
Western Brass Mills Div Olin Mathieson Chemical Corp — New Haven

Brick-Building
Donnelly Brick Co The — New Britain
Stiles Corp subsidiary of Plasticrete Corp — North Haven

Bricks—Fire
Howard Company — New Haven
Mullite Works Refractories Div H. K. Porter Co Inc — Shelton

Bright Wire Goods
Sargent & Company (Screw Eyes, Screw Hooks, Cup Hooks, Hooks and Eyes, C H Hooks) — New Haven

Broaching
Hartford Special Machinery Co The Hartford

Bronze & Aluminum Castings
Knapp Foundry Company Inc (rough or machined) — Guilford

Bronze Sand Castings
Bridgeport Deoxidized Bronze Corp — Bridgeport

Brooms—Brushes
Fuller Brush Co The — Hartford

Buckles
B Schwanda & Sons — Staffordville
Hawie Mfg Co The — Bridgeport
North & Judd Manufacturing Co. — New Britain
Patent Button Co The — Waterbury
Risdon Manufacturing Co John M. Russell Div — Naugatuck

Buffing & Polishing Compositions
Apothecaries Hall Company Division — Waterbury
The Hubbard Hall Chemical Company
Lea Mfg Co — Waterbury

Building Materials
City Lumber Co of Bridgeport Inc — Bridgeport

Burners
Plume & Atwood Mfg Co The (kerosene oil lighting) — Thomaston

Burners—Automatic
Peabody Engineering Corporation — Stamford

Burners—Coal and Oil
Peabody Engineering Corporation (Combined) — Stamford

Burners—Gas
Peabody Engineering Corporation (Blast Furnace) — Stamford

Burners—Gas and Oil
Peabody Engineering Corporation (Combined) — Stamford

Burners—Refinery
Peabody Engineering Corporation (For Gas and Oil) — Stamford

Burnishing
Abbott Ball Co The (Burnishing Barrels and Burnishing Media) — Hartford
Pioneer Steel Ball Company Inc (balls, cones, other metallic shapes) — Unionville

Burs
Atrax Company The (carbide) — Newington
Pratt & Whitney Co Inc (carbide and HSS) — West Hartford

Business Forms
Connecticut Manifold Forms Co. The — West Hartford

Business Counsellors
Wirth Management Company — Wilton

Buttons
B Schwanda & Sons — Staffordville
Frank Parizek Manufacturing Co The — Putnam
Scovill Manufacturing Company (Uniform and Tack Fasteners) — Waterbury
Waterbury Companies Inc (Uniform and Fancy Dress) — Waterbury

Cabinet Work
Hartford Builders Finish Co — Hartford

Cable—Asbestos Insulated
Rockbestos Wire & Cable Co Div Cerro de Pasco Corp — New Haven

Cable-Interlocked Armor
General Electric Company — Bridgeport

Cable—Nonmetallic Sheathed
General Electric Company — Bridgeport

Cages
Andrew B. Hendryx Co The (bird and animal) — New Haven

Cams
American Cam Company Inc — Hartford
Hartford Special Machinery Co The — Hartford
Rowbottom Machine Company Inc — Waterbury

Cams, 2 Dimensional
Mallory Industries, Inc — West Hartford
Parker-Hartford Corporation — Hartford

Cams, 3 Dimensional
Mallory Industries, Inc — West Hartford
Parker-Hartford Corporation — Hartford

Capacitors
Electro Motive Mfg Co Inc. The (mica & trimmer) — Willimantic

Carbide Shape Dies
Thomaston Tool & Die Co (any form) — Thomaston

Carbide Tools
Atrax Company The (solid) — Newington
Precision Tool & Die Co — Waterbury

Carbon Pile Type Resistors
Engineered Metals — Manchester

Card Clothing
Standard Card Clothing Co The (for textile mills) — Stafford Springs

Card Indexes
Wassell Organization Inc — Westport

Carpenter's Tools
Sargent & Company (Planes, Squares, Plumb Bobs, Bench Screws, Clamps and Saw Vices) — New Haven

Carpets and Rugs
Bigelow-Sanford Carpet Co — Thompsonville

Carton Closure Equipment
Better Packages Inc ("Tape-O-Matic," "Better Pack") — Shelton

Casters
Bassick Company The (Industrial and General) — Bridgeport

Castings
Connecticut Foundry Co (grey iron) — Rocky Hill
Connecticut Malleable Castings Co. (malleable (iron castings) — New Haven
Ductile Iron Foundry Inc — Stratford
Eastern Malleable Iron Company The (malleable iron, metal and alloy) — Naugatuck
Farrel-Birmingham Company Inc (Meehanite Nodular Iron, Steel) — Ansonia
H R Engineering Laboratories Inc (centrifugal, steel mold) — East Haddam
Malleable Iron Fittings Co (malleable iron and steel) — Branford
McLagon Foundry Co. (grey iron) — New Haven
New England Alloy Casting Corp — Hartford
Newton-New Haven Co (zinc and aluminum) — West Haven
Nutmeg Crucible Steel Co (steel) — Branford
Plainville Casting Company (gray, alloy and high tensile irons) — Plainville
Philbrick-Booth & Spencer Inc — Hartford
Producto Machine Company The — Bridgeport
Scovill Manufacturing Company (Brass & Bronze) — Waterbury
Turner & Seymour Mfg Co The (gray iron, semi steel and alloy) — Torrington
Union Mfg Co (grey iron & semi steel — New Britain
Waterbury Foundry Company The (highway & sash weights) — Waterbury
Wilcox Crittenden & Co Inc (gray iron and brass) — Middletown
(Advt.)

Castings—Investment
Arwood Precision Casting Corp — Groton

Cements—Refractory
Mullite Works Refractories Div H K Porter Co Inc — Shelton

Centerless Grinding
Brown Manufacturing Co. — Plainville
New England Centerless Grinding, Inc. — West Hartford
Winsted Centerless Co — Winsted

Centers
Ready Tool Co The (anti friction, carbide tipped, high speed) — Stratford

Centrifugal Pumps
Hamco Inc (gasoline or electric driven) — New Haven

Cermets
Russell Mfg Co (for missiles, and for friction materials) — Middletown

Chain
Risdon Manufacturing Co John M Russel Div — Naugatuck
Turner and Seymour Mfg Co The (weldless, sash, jack, safety, furnace, universal, lion and cable) — Torrington

Chain-Beaded
Auto-Swage Products Inc — Shelton
Bead Chain Mfg Co The — Bridgeport

Chain—Power Transmission and Conveying
Whitney Chain Company — Hartford
Whitney Chain Co The Subsidiary of Foote Bros Gear and Machine Corp — Hartford

Chairs
The Hitchcock Chair Company — Riverton

Chemical Manufacturing
Carwin Company The — North Haven

Chemicals
Apothecaries Hall Company Division
The Hubbard Hall Chemical Company — Waterbury
Axton-Cross Co — Shelton
Carwin Company The — North Haven
Macalaster Bicknell Company — New Haven
MacDermid Incorporated — Waterbury
Naugatuck Chemical Division United States Rubber Co — Naugatuck
New England Lime Company — Canaan
Pfizer & Co Inc Chas — Groton

Chemicals—Agriculture
Naugatuck Chemical Division United States Rubber Co (insecticides, fungicides, weed killers) — Naugatuck

Chemists—Analytical and Consulting
Bridgeport Testing Laboratory Inc — Bridgeport

Christmas Light Clips
Foursome Manufacturing Co — Bristol

Chromium Plating
Chromium Corp of America — Waterbury
Chromium Process Company The — Shelton

Chucks
Cushman Chuck Co The — Hartford
Jacobs Manufacturing Co The — West Hartford
Jacobs Manufacturing Co The (drill chucks lathe collet chucks and arbors) — West Hartford
Skinner Chuck Co The — New Britain
Union Manufacturing Company — New Britain

Chucks—Drill
Jacobs Manufacturing Co The — West Hartford

Chucks & Face Plate Jaws
Cushman Chuck Co The — Hartford
Skinner Chuck Co The — New Britain
Union Mfg Co — New Britain

Chucks—Power Operated
Cushman Chuck Co The — Hartford
Skinner Chuck Co The — New Britain
Union Manufacturing Company — New Britain

Clay
Howard Company (Fire Howard "B" and High Temperature Dry) — New Haven

Cleaning Compounds
Enthone Inc (Industrial) — New Haven
MacDermid Incorporated — Waterbury

Clock Mechanisms
Lux Clock Mfg Co The — Waterbury

Clocks
E Ingraham Co The — Bristol
United States Time Corporation The — Waterbury

Clocks—Alarm
Lux Clock Mfg Co The — Waterbury

Clocks—Automatic Cooking
Lux Clock Mfg Co The — Waterbury

Clutches
Snow-Nabstedt Gear Corp The — New Haven

Clutch Facings
Raybestos Division of Raybestos-Manhattan Inc (Molded, Woven, Semi-metallic and Full-metallic) — Bridgeport
Russell Mfg Co (rubber Shock Cord—all sizes and types) — Middletown

Coils—Electric
Bittermann Electric Company — Canaan
Rowley Spring Co. Inc., The (Air-wound for television and electronic industries) — Bristol

Coils—Pipe or Tube
National Pipe Bending Co The — New Haven
Whitlock Manufacturing Co The — Hartford

Cold Molded Electrical Insulation
Meriden Molded Plastics — Meriden

Commercial Heat Treating
A F Holden Company The — West Haven

Commercial Truck Bodies
Metropolitan Body Company — Bridgeport

Compacts
Scovill Manufacturing Company (powder and rouge) — Waterbury

Compressors
Brunner Division of Dunham-Bush Inc (Refrigeration, Air Conditioning and Air Compressors) — West Hartford
Norwalk Company Inc (high pressure air and gas) — South Norwalk

Computers
Reflectone Electronics, Inc. — Stamford
Royal McBee Corp — Hartford

Concrete Products
Plasticrete Corp — Hamden, Hartford, North Haven, Waterbury, Willimantic

Condenser and Heat Exchanger Tubes
Bridgeport Brass Company — Bridgeport
Scovill Manufacturing Company — Waterbury

Cones
Sonoco Products Co (Climax-Lowell Div.) (Paper) — Mystic

Connector
Gorn Electric Co Inc (precision miniature electrical and printed circuit) — Stamford

Construction Equipment Trailers
Kensington Welding & Trailer Co The — Kensington

Consulting Engineers
Stanley P. Rockwell Co Inc The (Consulting) — Hartford

Continuous Mill Gages
Pratt & Whitney Co Inc — West Hartford

Contract Machining
Laurel Mfg Co Inc (Precision Production Small Parts) — Plainville
Malleable Iron Fittings Company — Branford

Contract Manufacturers
Fenn Mfg Co The (Precision Machine Work) — Newington
Greist Mfg Co The (metal parts and assemblies) — New Haven
Hartford Machine Screw Co Div of Standard Screw Co — Hartford
Merriam Mfg Co (production runs—metal boxes and containers to specifications) — Durham
Plume & Atwood Mfg Co The (metal parts and assemblies) — Thomaston
Scovill Manufacturing Company (metal parts and assemblies) — Waterbury
J H Sessions & Son — Bristol
Torrington Co The — Torrington
Voss Co The — Branford

Controllers
Bristol Company The — Waterbury
Manning Maxwell & Moore Inc — Stratford

Controls—Remote
Panish Controls (Remote Controls for Marine & Aeronautic Applications) — Bridgeport

Controls—Hydraulic Remote
Sperry Products Inc — Danbury

Converters DC to AC
Electric Specialty Co — Stamford
Safety Electrical Equipment Corp — New Haven

Conveyer Systems
Hayes-Te Equipment Corp Connecticut Conveyor Division (Conveyor Co The) — Unionville
Leeds Conveyor Mfg Co The — East Haven
Production Equipment Co — Meriden

Copper
American Brass Corp The (sheet, wire, rods, tubes) — Waterbury
Bristol Brass Corp The (steel) — Bristol
Chase Brass & Copper Co (sheet, rod, wire tube) — Waterbury
Thinsheet Metals Co The (sheet and rolls) — Waterbury
Western Brass Mills Div Olin Mathieson Chemical Corp — New Haven

Copper Castings
Knapp Foundry Company Inc — Guilford

Copper Sand Castings
Bridgeport Deoxidized Bronze Corp — Bridgeport

Copper Sheets
American Brass Company The — Waterbury
New Haven Copper Co The — Seymour

Copper Shingles
New Haven Copper Co The — Seymour

Copperware
Bridgeport Brass Company (cooking utensils) — Bridgeport

Copper Water Tube
American Brass Company The — Waterbury

Cord
Russell Mfg Co The (marine & aero shock) — Middletown

Cord Sets—Electric
General Electric Company — Bridgeport
Seeger-Williams Inc — Bridgeport

Cork Cots
Sonoco Products Co (Climax-Lowell Div) — Mystic

Corn Cob Meal
Nielsen & Sons Inc. John R (graded) — South Windsor

Correspondence Files
Wassell Organization Inc — Westport

Corrugated Box Manufacturers
Connecticut Container Corporation — New Haven
Corrugated Containers Inc — Hartford

Corrugated Shipping Cases
Connecticut Container Corporation — New Haven
Continental Can Co. Fibre Drum and Corrugated Box Division — Portland
D L & D Container Corp — New Haven

Cosmetic Containers
Eyelet Specialty Div. International Silver Co. — Wallingford
Plume & Atwood Mfg Co The (metal) — Thomaston
Scovill Manufacturing Company — Waterbury

Cosmetics
J B Williams Co The — Glastonbury

Counting Devices
Veeder-Root Inc — Hartford

Couplings
Scovill Manufacturing Company (garden and industrial hose) — Waterbury

Crushers
Farrel-Birmingham Company Inc (Stone and Ore) — Ansonia

Cushioning for Packaging
Gilman Brothers Co The — Gilman

Cutters
Atrax Company The (solid carbide) — Newington
Hanson-Whitney Co The (thread milling) — Hartford
Mitrametric Co The (ground pinion) — Torrington
Pratt & Whitney Co Inc (Milling Cutters all types carbide and HSS) — West Hartford

Cutting & Creasing Rule
Bartholomew Co H J — Bristol

Data Processing Equipment
Royal McBee Corp — Hartford

Decalcomanias
Sirocco Screenprints — New Haven

Deep Drawings
Stanley Pressed Metal — New Britain
Terryville Manufacturing Co — Terryville

Deep Hole Drilling & Reaming
Hamden Deep Hole Drilling Co — Hamden

Delayed Action Mechanism
M H Rhodes Inc — Hartford
R W Cramer Company Inc The — Centerbrook

Design
Designers for Business and Industry (product design-appearance) — New Haven
Maurice Libson Designer (product styling & appearance design) — New Haven

Diamonds—Industrial
Parsons Diamond Products Inc — West Hartford
Russell Inc RR — Newington

Diamond Tools
Parsons Diamond Products Inc — West Hartford
Russell Inc RR — Newington

Dictating Machines
Dictaphone Corporation — Bridgeport
SoundScriber Corporation The — New Haven

Die Cast Dies
C & F Tool & Die Corp — Bridgeport

Die Castings
Newton-New Haven Co Inc — New Haven
Stewart Die Casting Div Stewart-Warner Corp — Bridgeport

Die Casting Dies
Eastern Machine Screw Corp The — New Haven
Weimann Bros Mfg Co. The — Derby

Die Heads—Self Opening
Eastern Machine Screw Corp The — New Haven
Geometric Tool Division, Greenfield Tap & Die Corp — New Haven

Die Polishing Machinery
Hartford Special Machinery Co The — Hartford

Die Sets
Producto Machine Company The — Bridgeport
Union Mfg Co (precision, steel and semi-steel) — New Britain

Dies
Hoggson & Pettis Mfg Co The — New Haven
Mitrametric Co The (ground for gears) — Torrington
Pratt & Whitney Co Inc (thread cutting and thread rolling) — West Hartford

Dies & Die Cutting
Douglas Co Geo M — New Haven

Display Containers
National Folding Box Co Div Federal Paper Board Co Inc (folding paperboard) — New Haven and Versailles

Displays—Design & Production
Ad-Craft Displays, Inc. — Bloomfield
Stifel & Kufta — New Britain

Display Equipment
Polecats Inc — Old Saybrook

Displays—Metal
Durham Mfg Co The (Designing & Mfg to customers' specifications) — Durham
Merriam Mfg Co (Contract Work to Individual Specifications) — Durham
Parsons Co Inc W A (custom designed) — Durham

Displays—Plastic
Dura Plastics of New York, Inc. — Westport

Diversification Advisors
Wirth Management Company — Wilton

Door Closers
Sargent & Company — New Haven
Yale & Towne Mfg Co The — Stamford

Doors
Bilco Co The (metal, residential and commercial) — West Haven

Dowel Pins
Allen Manufacturing Co The — Bloomfield
Hartford Machine Screw Co Div of Standard Screw Co — Hartford
Holo-Krome Screw Corp The — West Hartford
Torrington Co The — Torrington

Drafting Accessories
Joseph Merritt & Co — Hartford

Drawn Shells
Cly-Del Manufacturing Co. — Waterbury

Drill Presses
Townsend Mfg Co The H P — Elmwood

Drilling Machines
Pratt & Whitney Co Inc (Deep Hole) — West Hartford

Drilling and Tapping Machinery
Hartford Special Machinery Co The — Hartford

Drop Forgings
Atwater Mfg Co — Plantsville
Billings & Spencer Co The — Hartford
Consolidated Industries — West Cheshire
Wilcox Crittenden & Co Inc — Middletown

Druggists' Rubber Sundries
Seamless Rubber Company The — New Haven

Duplicating Machines—Automatic
Pratt & Whitney Co Inc — West Hartford

Dust Collectors
Colonial Blower Co — Plainville
Ventilating Supplies Inc — Plainville

Elastic
Russell Mfg Co (rubber shock cord—all sizes and types) — Middletown

Electric Cables
General Electric Company (for residential, commercial and industrial applications) — Bridgeport
Rockbestos Wire & Cable Co Div Cerro de Pasco Corp (asbestos insulated) — New Haven

Electric Cord Springs
Bristol Spring Manufacturing Co — Plainville

Electric Cords
General Electric Company — Bridgeport
Rockbestos Wire & Cable Co Div Cerro de Pasco Corp (asbestos insulated) — New Haven

Electric Enclosed Switches
Arrow-Hart & Hegeman Electric Co The — Hartford

Electric Eye Control
Ripley Company Inc — Middletown

Electric Fixture Wire
Rockbestos Wire & Cable Co Div Cerro de Pasco Corp (asbestos insulated) — New Haven

Electric Hand Irons
Winsted Hardware Mfg Co (trade mark "Durabilt") — Winsted

Electric Heating Elements
Hartford Element Co — Hartford

Electric Insulation
Case Brothers Inc — Manchester
Stevens Paper Mills Inc The — Windsor

Electric Lighting Fixtures
Plume & Atwood Mfg Co The — Thomaston
Wasley Products Inc — Plainville

Electric Motor Controls
Arrow-Hart & Hegeman Electric Co The — Hartford

Electric Motor Winding
Monarch Electric Co (3 phase industrial motors) — New Britain

Electric Motor Repair
B & J Electric Co — Ansonia

Electric Motors
Electric Specialty Co — Stamford
Iona Manufacturing Company The — Manchester
Monarch Electric Co (Allis Chalmers) — New Britain
Safety Electrical Equipment Corp — New Haven
U S Electrical Motors Inc — Milford
Harvey Hubbell Incorporated — Bridgeport

Electric Switches
Harvey Hubbell, Incorporated — Bridgeport

Electric Time Controls
Cramer Controls Corporation The — Centerbrook

Electric Wire
Rockbestos Wire & Cable Co Div Cerro de Pasco Corp (asbestos insulated) — New Haven

Electric Wiring Devices
Arrow-Hart & Hegeman Electric Co The — Hartford
Harvey Hubbell Incorporated — Bridgeport

Electrical Appliances
Iona Manufacturing Company The — Manchester

Electrical Conduit Fittings & Grounding Specialties
Gillette-Vibber Company The — New London

Electrical Connectors
Burndy Corporation — Norwalk

Electrical Control Apparatus
Plainville Electrical Products Co The — Plainville

Electrical Controls
Monarch Electric Co (Allis Chalmers) — New Britain

Electrical Recorders
Bristol Co The — Waterbury

Electrical Relays and Controls
Allied Control Co — Plantsville

Electrical Switchboards
Plainville Electrical Products Co The — Plainville
Pneumatic Applications Co — Simsbury

Electrical Wiring Systems
Wiremold Co The — Hartford

Electro Mechanical Prototypes
Victor Tool & Mfg Inc — Higganum

Electronic Parts
Patent Button Company The — Waterbury
Prentice Mfg Co The G E (stampings to customers' specifications) — Kensington
Terryville Manufacturing Co (Stampings to customer specifications) — Terryville

Electronics
Beau Electronics — Waterbury
Ripley Co — Middletown
Sturrup Larabee & Warmers Inc — Middletown
Vinco Electronics Corporation — New Haven

Electroplating
Giering Metal Finishing Inc — Hamden
National Sherardizing & Machine Co — Hartford
Waterbury Plating Company — Waterbury

Electroplating—Equipment & Supplies
Apothecaries Hall Company Division — Waterbury
Enthone Inc — New Haven
Hubbard Hall Chemical Company The — Waterbury
Lea Manufacturing Co The — Waterbury
MacDermid Incorporated — Waterbury

Electroplating Processes & Supplies
Enthone Inc — New Haven

Electrotypes
Barnum-Hayward Electrotype Co Inc — New Haven
Lockwood Sons Inc Wm H — Hartford
New Haven Electrotype Div Electrographic Corp — New Haven

Elevators
Eastern Elevator Co (passenger and freight) — New Haven
General Elevator Service Co — Hartford

Enameling
Giering Metal Finishing Inc — Hamden
Waterbury Plating Company — Waterbury

Enamels & Lacquers
Dobbs Chemical Co The (industrial finishes to customers' specifications) — New Haven

Engineering
Technical Design and Development Co Inc (design and drafting) — Milford

End Mills
Atrax Company The (solid carbide) — Newington

Engraving—Plastic and Nonferrous Metals
New England Engraving Company Div. of Dura Plastics of New York, Inc. — Westport
Pratt & Whitney Co Inc (carbide and HSS) — West Hartford
Salisbury Products Inc — Lakeville

Envelopes
Curtis 1000 Inc — Hartford
United States Envelope Company Hartford Division — Hartford

Excelsior
Nielsen & Sons Inc John R — South Windsor

Extractors—Tap
Walton Company The — West Hartford (Advt.)

Extruders and Accessories
Davis Electric Company (Ram Type Teflon Extruder) Wallingford
Standard Machinery and Davis-Standard Divisions of Franklin Research Corp Mystic

Eyelets
American Brass Co The Waterbury
Cly-Del Manufacturing Waterbury
Mark Eyelet & Stamping Co (small—metal stampings) Wolcott
Platt Bros & Co The Waterbury
Plume & Atwood Mfg Co The Thomaston
Stevens Co Inc Waterbury
Waterbury Companies Inc Waterbury

Eyelets, Ferrules and Wiring Terminals
American Brass Company The Waterbury
Waterbury Companies Inc Waterbury

Eyelet Machine Products
American Brass Company The Waterbury
Ball & Socket Mfg Co the West Cheshire
Cold Forming Mfg Co The Waterbury
Platt Bros & Co The Waterbury
Plume & Atwood Mfg Co The Thomaston
Stevens Co Inc Waterbury
Waterbury Companies Inc Waterbury

Fabricators
Scovill Manufacturing Company (aluminum, brass, bronze, copper, steel) Waterbury

Fabrics
Russell Mfg Co (Teflon, Moulded Fabric, Bearing Surfaces, High Temperature Fabrics) Middletown

Fan Blades
Torrington Manufacturing Company The Torrington

Fancy Dress Buttons and Buckles
Waterbury Companies Inc Waterbury

Fans—Electric
General Electric Company Bridgeport
Monarch Electric Co (attic, industrial and ventilating) New Britain

Fans—Industrial
Ventilating Supplies Inc Plainville

Fasteners—Aircraft
Scovill Manufacturing Company (PANELOC Aircraft Fasteners) Waterbury

Fasteners—Industrial
Torrington Co The Torrington

Fasteners—Laundry Proof
Scoville Manufacturing Company (GRIPPER snap fasteners) Waterbury

Fasteners—Slide & Snap
Scovill Manufacturing Company (GRIPPER zippers and GRIPPER snap fasteners) Waterbury

Felt
Auburn Manufacturing Company The (mechanical, cut parts) Middletown
Drycor Felt Company (paper makers and industrial) Staffordville

Felt—All Purpose
American Felt Co (Mill & Cutting Plant) Glenville
Chas W House & Sons Inc (Mills & Cutting Plant) Unionville

Fiber-glass Fabrication
Davis Co The E J West Haven

Fibre Board
Bird & Son Inc New Britain
Case Brothers Inc Manchester
Colonial Board Company Manchester
C H Norton Co The North Westchester
Stevens Paper Mills Inc The Windsor

File Cards
Standard Card Clothing Co The Stafford Springs

Filing Equipment
Wassell Organization Inc Westport

Filters—Fluid
Cuno Engineering Corp The Meriden

Filters—Liquid
Alsop Engineering Co. Milldale

Finger Nail Clippers
H C Cook Co The Ansonia

Firearms
Colt's Patent Fire Arms Mfg Co Inc Hartford
Junior Screw Machine Products Inc West Haven
Marlin Firearms Co The New Haven
O F Mossberg & Sons Inc New Haven
Winchester-Western Div Olin Mathieson Chemical Corp New Haven

Fire Alarm Systems
Fire-Lite Alarms Inc New Haven

Fire Hose
Fabrics Fire Hose (municipal and industrial) Sandy Hook

Fireplace Goods
Puritan Fireplace Furnishings Co Milford
John P Smith Co The (screens) New Haven

Fireworks
M Backes' Sons Inc Wallingford

Fishing Tackle
H C Cook The Ansonia

Flashlights
Bridgeport Metal Goods Mfg Co Bridgeport

Flat Springs
Bristol Spring Manufacturing Co Plainville
Gemco Manufacturing Co Inc Southington

Flexible Shaft Machines
Pratt & Whitney Co Inc West Hartford

Float Switches
Gorn Electric Co Inc (for aircraft and commerical use) Stamford

Floor & Ceiling Plates
Beaton & Cadwell Mfg Co The New Britain

Fluorescent Lighting Equipment
Fullerton Manufacturing Corp Norwalk
Vanderman Manufacturing Co The Willimantic
Wiremold Company The Hartford

Foam Rubber
Armstrong Rubber Company The West Haven

Forgings
Atwater Manufacturing Company Plantsville
Billings & Spencer Company Hartford
Bridgeport Hardware Mfg Corp The Bridgeport
Capewell Manufacturing Company Hartford
Chase Brass & Copper Co Waterbury
Consolidated Industries Inc West Cheshire
Heppenstall Co (all kinds and shapes) Bridgeport
Scovill Manufacturing Company (Non-ferrous) Waterbury

Forms
Baker Goodyear Co (Columnar and Analysis) Branford

Foundries
Connecticut Malleable Castings Co (malleable iron castings) New Haven
Derby Castings Company, The Seymour
Ductile Iron Foundry Inc Stratford
Farrel-Birmingham Company Inc (Iron and Steel) Ansonia
Malleable Iron Fittings Co (Malleable Iron and Steel Castings) Branford
New England Alloy Casting Corp Hartford
Plainville Casting Company (gray, alloy and high tensile irons) Plainville
Producto Machine Company The Bridgeport
Turner & Seymour Mfg Co The (gray, iron, semi steel and alloy) Torrington
Union Mfg Co (gray iron & semi steel) New Britain
Wilcox Crittenden & Co Inc (iron, brass, aluminum and bronze) Middletown

Fountain Pens and Mechanical Pencils
Waterman Pen Company Inc Seymour

Foundry Riddles
John P Smith Co The New Haven

Four Slide Forms
Peck Spring Co Plainville

Frames—Hack Saw
Thompson & Son Co The Henry G New Haven

Fuel Oil Pump and Heater Sets
Peabody Engineering Corporation Stamford

Furnaces
Norwalk Airconditioning Corp South Norwalk

Gage Blocks
Pratt & Whitney Co Inc (Alloy steel and Carbide, Hoke and USA) West Hartford

Galvanizing
Malleable Iron Fittings Co Branford
Wilcox Crittenden & Co Inc Middletown

Gaskets
Auburn Manufacturing Company The (from all materials) Middletown
Raybestos Division of Raybestos-Manhattan Inc Bridgeport

Gaskets—Metallic
Laminated Shim Company Inc Glenbrook

Gas Scrubbers, Coolers and Absorbers
Peabody Engineering Corporation Stamford

Gauges
Bristol Co The (pressure and vacuum-recording automatic control) Waterbury
Helicoid Gage Division American Chain & Cable Co The (pressure and vacuum) Bridgeport
J & S Machine Co Inc (End Measures, Cyl Plugs & Rings) Hartford
Manning Maxwell & Moore Inc Stratford
New Haven Trap Rock Co The Machine Products Div (Johan Universal and Special Purpose Gauge) North Branford
Pratt & Whitney Co Inc (Precision Measurement all types) West Hartford

Gears
Mitrametric Co The (blanked fine pitch) Torrington

Gears and Gear Cutting
Farrel-Birmingham Company Inc Ansonia
Fenn Mfg Co The Newington
Hartford Special Machinery Co The Hartford
United Gear & Machine Co Suffield

Generators
Hameo Inc (electric, portable, gasoline driven) New Haven
Safety Electrical Equipment Corp New Haven

Glass Blowing
Macalaster Bicknell Company New Haven

Glass Containers
Feldman Glass Co. The New Haven

Glass Cutters
Fletcher-Terry Co The Forestville

Grinding
Farrel-Birmingham Company Inc (Roll and Cylindrical) Ansonia
Hartford Special Machinery Co The (gears, threads, cams and splines) Hartford
Horberg Grinding Industries Inc (Precision custom grinding; centerless, cylindrical, surfaces, internal and special) Bridgeport
K-F & D Mfg Company The (Contour and Precision) Manchester

Grinding Machines
Farrel-Birmingham Company Inc (Roll)
Rowbottom Machine Company Inc (cam) Waterbury

Grinding Wheels
Fuller Merriam Company The West Haven

Grommets
American Brass Company The Waterbury
Plume & Atwood Mfg Co The Waterbury

Hack and Band Saw Blades
Capewell Manufacturing Co The Hartford

Hair Hygiene Preparations
Parker Herbex Corporation Stamford

Hammers—Carpenters and Machinists
Capewell Manufacturing Company Hartford

Hand Tools
Billings and Spencer Company (wrenches sockets and shop tools) Hartford
Bridgeport Hardware Mfg Corp The (screw drivers, wrenches, nail pullers, box & crate openers, pliers, saws, trowels & special forgings) Bridgeport

Hardened and Ground Parts
Hartford Machine Screw Company Div of Standard Screw Co Hartford

Hardness Testers
Wilson Mechanical Instrument Div American Chain & Cable Company Inc Bridgeport

Hardware
Bassick Company The (Automotive) Bridgeport
City Lumber Co of Bridgeport Inc Bridgeport
Gordon Associates Derby
Harlock Products Corp New Haven
Sargent & Company New Haven
Wilcox Crittenden & Co Inc (marine heavy and industrial) Middletown
Yale & Towne Mfg Co The Stamford

Hardware—Marine & Bus
Rostand Mfg Co The Milford

Hardware—Trailer Cabinet
Excelsior Hardware Co The Stamford

Hardware, Trunk & Luggage
Corbin Cabinet Lock Div American Hardware Corp New Britain
J H Sessions & Son Bristol
Yale & Towne Mfg Co The Stamford

Hat Machinery
Doran Bros Inc Danbury

Health Surgical & Orthopedic Supports
Berger Brothers Company The (custom made for back, breast and abdomen) New Haven

Heat Elements
Electroflex Heat Inc Hartford
Safeway Heat Elements Inc (woven wire resistance type) Middletown

Heat Exchangers
Whitlock Manufacturing Co The Hartford

Heat Sealing—Electronic
Berger Bros (vinyl-polyethylene) New Haven

Heat Treating
ABA Tool & Die Co — Manchester
Bennett Metal Treating Co The — Elmwood
Commercial Metal Treating Co — Bridgeport
Hartford Machine Screw Company — Hartford
New Britain-Gridley Machine Division The New Britain Machine Co — New Britain
New Haven Heat Treating Co Inc — New Haven
Skene Co inc The William A (metals) — Bridgeport
Skinner Chuck Co The — New Britain
Stanley P Rockwell Co Inc The — Hartford (Advt.)

Heat-Treating Equipment
Barnes Co The Wallace Div Associated Spring Corp — Bristol
Bauer & Company Inc — Hartford
Rolock Inc (Retorts, Muffles, etc) — Fairfield
Stanley P Rockwell Co Inc The (commercial) — Hartford

Heat Treating Fixtures
Rolock Inc (Trays, Baskets, etc.) — Fairfield
Wiretex Mfg Co Inc — Bridgeport

Heat Treating Salts and Compounds
Mitchell-Bradford Chemical Co — Milford

Heaters—Electric
General Electric Company — Bridgeport

Heating
Dunham-Bush, Inc. — West Hartford

Heating and Cooling Coils
G & O Manufacturing Co — New Haven

Heating Elements
Hartford Element Co — Hartford

Heavy Chemicals
Naugatuck Chemical Division United States Rubber Co (sulphuric, nitric and muriatic acids and aniline oil) — Naugatuck

Hex-Socket Screws
Allen Manufacturing Company The — Bloomfield
Bristol Company The — Waterbury
Hartford Machine Screw Co Div of Standard Screw Co — Hartford
Holo-Krome Screw Corp The — West Hartford

High Frequency Alternators
Electric Specialty Co — Stamford
Safety Electrical Equipment Corp — New Haven

Highway Guard Rail Hardware
Malleable Iron Fittings Co — Branford

Hinges
Homer D Bronson Company — Beacon Falls

Hobs and Hobbings
Pratt & Whitney Co Inc (Die and Thread milling) — West Hartford

Hobs
Hanson-Whitney Co The (fine pitch gear) — Hartford

Hoists and Trolleys
Union Mfg Company — New Britain

Honing
K-F & D Mfg Company The — Manchester

Hose Fittings
Scovill Manufacturing Company (garden and industrial hose) — Waterbury

Hose—Flexible Metallic
American Brass Co
American Metal Hose Branch — Waterbury

Hose Supporter Trimmings
Hewie Mfg Co The (So-Lo Grip Tabs) — Bridgeport

Hospital & Rehabilitation Equipment
Polecats Inc — Old Saybrook

Hydraulic Brake Fluids
Eis Automotive Co — Middletown

Hypodermic Needles
Roehr Products Company — Waterbury

Impregnating
American Metaseal Inc (metal, wood etc.) — Hamden

Industrial Chrome Plating
Mirror Polishing & Buffing Co — Waterbury

Industrial Design
Van Dyck Associates (product appearance and engineering) — Westport

Industrial Displays
Sansone Co S Frederick (Designers Builders and Counselors) — Short Beach

Industrial Finishes
Chemical Coatings Corporation — Rocky Hill

Inks
Waterman Pen Company Inc — Seymour

Insecticides
American Cyanamid Company — Waterbury

Inserts—Screw Threads
Heli-Coil Corp — Danbury

Instalment Payment Books
Wassell Organization Inc — Westport

Insulated Wire & Cable
General Electric Company (for residential commercial and industrial applications) — Bridgeport
Kerite Company The — Seymour

Insulated Wire & Cable Machinery
Davis Electric Company — Wallingford

Instruments
Bristol Company The — Waterbury
Manning Maxwell & Moore Inc — Stratford
Penn Keystone Corporation — Derby
Pratt & Whitney Co Inc (Precision Measuring) — West Hartford
Terryville Manufacturing Co (stampings for) — Terryville

Integrators
Reflectone Electronics, Inc. — Stamford

Intercommunication
Action Systems Co — Meriden

Interval Timers
Lux Clock Manufacturing Company — Waterbury
Rhodes Inc M H — Hartford

Jacquard
Case Brothers Inc — Manchester

Japanning
H Sessions & Son — Bristol

Jig Borer
Linley Brothers Company — Bridgeport
Moore Special Tool Co (Moore) — Bridgeport
Pratt & Whitney Co Inc — West Hartford

Jigs, Fixtures & Gages
Federal Machine & Tool Co — Bristol

Jig Grinder
Moore Special Tool Co (Moore) — Bridgeport

Junior Automobiles
Power Car Company — Mystic

Key Blanks
Sargent & Company — New Haven
Yale & Towne Mfg Co The — Stamford

Labels
Naugatuck Chemical Division United States Rubber Co (for rubber articles) — Naugatuck

Label Dispensers
Derby Sealers Inc (pressure-sensitive labels) — Derby

Label Moisteners
Better Packages Inc ("Counterboy"—"Packer") — Shelton
Derby Sealers Inc — Derby

Laboratory Equipment
Eastern Industries Inc — New Haven

Laboratory Supplies
Macalaster Bicknell Company — New Haven

Laces
American Fabrics Company The — Bridgeport
Wilcox Lace Corporation The — Middletown

Lacquers & Synthetic Enamels
Chemical Coatings Corporation — Rocky Hill
I-Sis Chemicals Inc — Stamford

Ladders
Flint Co A W — New Haven

Laminated Metal
Bridgeport Brass Company — Bridgeport

Lamps
Plume & Atwood Mfg Co The (metal oil) — Waterbury

Lampholders—Incandescent and Fluorescent
General Electric Company — Bridgeport

Lamp Shades
Verplex Company The — Essex

Lanterns—Battery Operated
Electrical Div Olin Mathieson Chemical Corp — New Haven

Lathes—Toolroom and Automatic
Pratt & Whitney Co Inc — West Hartford

Lead Plating
Christie Plating Co The — Groton

Leather
Herman Roser & Sons Inc (Genuine Pigskin) — Glastonbury

Leather Dog Furnishings
Andrew B Hendryx Co The — New Haven
The Smith-Worthington Saddlery Co — Hartford

Leather, Mechanical
Auburn Manufacturing Company The (packings, cubs, washers, etc) — Middletown

Letterheads
Lehman Brothers Inc (designers, engravers, lithographers) — New Haven

Lighting Equipment
Fullerton Manufacturing Corp — Norwalk
Miller Co The (Miller, Ivanhoe) — Meriden

Lighting Fixtures
Wasley Products Inc — Plainville

Lime
New England Lime Company — Canaan

Lipstick Cases
Scovill Manufacturing Company — Waterbury

Lipstick Containers
Bridgeport Metal Goods Mfg Co — Bridgeport
Plume & Atwood Manufacturing Co — Waterbury

Lithographers
O'Toole & Sons Inc T — Stamford

Lithographing
City Printing Co. The — New Haven
Kellogg & Bulkeley A Division of Connecticut Printers Inc — Hartford
Lehman Brothers Inc — New Haven
A. D. Steinbach & Sons — New Haven

Locks—Banks
Yale & Towne Mfg Co The — Stamford

Locks—Builders
Sargent & Company — New Haven
Yale & Towne Mfg Co The — Stamford

Locks—Cabinet
Excelsior Hardware Co The — Stamford
Yale & Towne Mfg Co The — Stamford

Locks—Special Purpose
Yale & Towne Mfg Co The — Stamford

Locks—Suitcase and Trimmings
Excelsior Hardware Co The — Stamford

Locks—Trunk
Excelsior Hardware Co The — Stamford
Yale & Towne Mfg Co The — Stamford

Locks—Zipper
Excelsior Hardware Co The — Stamford

Loom—Non-Metallic
Wiremold Company The — Hartford

Lubricating System—Mist
Thompson & Son Co The Henry G — New Haven

Lumber & Millwork Products
City Lumber Co of Bridgeport Inc — Bridgeport

Machetes
Collins Company The — Collinsville

Machine Overload Monitors
Sperry Products Inc — Danbury

Machine Tools
Farrel-Birmingham Company Inc — Ansonia
Pratt & Whitney Co Inc — West Hartford
Producto Machine Company The — Bridgeport

Machine Work
Banthin Engineering Co — Bridgeport
Essex Machine Works, Inc. — Essex
Farrel-Birmingham Company Inc — Ansonia
Fenn Manufacturing Company The (precision parts) — Newington
Fuller Brush Company The (precision contract work) — Hartford
Hartford Special Machinery Co The (contract work only) — Hartford
National Sheradizing & Machine Co. (job) — Hartford
New Haven Trap Rock Co The Machine Products Div — North Branford
Parker-Hartford Corporation — Hartford
Swan Tool & Machine Co The — Hartford
Safety Electrical Equipment Corp — New Haven
Torrington Manufacturing Co The (special rolling mill machinery) — Torrington
Torrington Co The — **Torrington**

Machinery
Conn Machine Repair Inc (special mfg) — Bridgeport
Davis Electric Company (Wire and Cable) — Wallingford
Fenn Manufacturing Company The (special) — Newington
Hallden Machine Company The (mill) — Thomaston
Torrington Manufacturing Co The (mill) — Torrington
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc (metal working) — Waterbury

Machinery—Automatic
Banthin Engineering Company (new and rebuilt) — Bridgeport

Machinery—Automatic Feeding
Technical Design and Development Co Inc — Milford

Machinery—Bolt and Nut
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc — Waterbury

Machinery—Cold Heading
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc — Waterbury

Machinery Dealers & Rebuilders
Botwinik Brothers — New Haven
Bristol Metal Working Equipment — East Hartford
Conn Machine Repair Inc — Bridgeport
J L Lucas and Son — Fairfield
State Machinery Co Inc — New Haven

Machinery—Extruding
Standard Machinery and Davis-Standard Divisions of Franklin Research Corp — Mystic

Machinery—Metal-Working
Fenn Mfg Co The — Newington
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc — Waterbury
Pratt & Whitney Co Inc — West Hartford

Machinery—Nut
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc (forming and tapping) — Waterbury

Machinery—Screw and Rivet
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc — Waterbury

Machinery—Wire Drawing
Fenn Mfg Co The — Newington
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc — Waterbury

Machinery Rebuilding
Conn Machine Repair Inc — Bridgeport

Machinery—Wire Straightening
Mettler Machine Tool Inc — New Haven
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc — Waterbury

Machinery—Wire Straightening and Cutting
Mettler Machine Tool Inc — New Haven

Machines
Campbell Machine Div American Chain & Cable Co Inc (cutting & nibbling) — Bridgeport
Coulter & McKenzie Machine Co The (special, new development engineering design and construction) — Bridgeport

Machines Automatic
Globe Tapping Machine Co — Bridgeport

Machines—Automatic Chucking
New Britain-Gridley Machine Division The New Britain Machine Co (multiple spindle and double end) — New Britain
Pratt & Whitney Co Inc (Potter & Johnson) — West Hartford

Machines—Brushing
Fuller Brush Co The — Hartford

Machines—Draw Benches
Fenn Manufacturing Company The Newington
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc — Waterbury

Machines—Forming
Nilson Machine Company The A H (four-slide wire and ribbon stock) — Shelton

Machines—Paper Ruling
John McAdams & Sons Inc — Norwalk

Machines—Precision Boring
New Britain-Gridley Machine Division The New Britain Machine Co. — New Britain

Machines—Rolling
Fenn Manufacturing Company The — Newington

Machines—Slotting
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc (screw head) — Waterbury

Machines—Special
Fenn Mfg Co The — Newington
Fuller Brush Co The — Hartford

Machines—Special Build
Essex Machine Works, Inc. — Essex

Machines—Swaging
Fenn Manufacturing Company The Newington
Torrington Co The — Torrington
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc — Waterbury

Machines—Thread Rolling
Hartford Special Machinery Co The — Hartford
Peterson Division Mettler Machine Tool Inc — New Haven
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc — Waterbury

Machines—Turks Head
Fenn Manufacturing Company The Newington
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc — Waterbury

Machines—Wire Drawing
Fenn Manufacturing Company The Newington
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc — Waterbury

Machining—Horizontal Boring
Tucker Machine Co — New Haven

Management Counsel
Wirth Management Company — Wilton

Manganese Bronze Ingot
Whipple and Choate Company — Bridgeport

Manicure Instruments
W E Bassett Company The — Derby

Marine Equipment
Wilcox-Crittenden Div North & Judd Mfg Co — Middletown

Marine Machines
Essex Machine Works, Inc (Propellors, Shafts, etc.) — Essex

Marine Reserve Gears
Snow-Nabstedt Gear Corp The — New Haven

Market Studies and Reports
Wirth Management Company — Wilton

Marketing Service
Business Incubation Laboratory — Wilton

Marking Devices
Cooney Engraving Co — Branford
Hoggson & Pettis Mfg Co The — New Haven
Parker-Hartford Corporation (steel) — Hartford

Marking Tools
Parker-Hartford Corporation — Hartford

Masonry Products
Plasticrete Corp — Hamden, Hartford, North Haven, Waterbury, Willimantic

Materials Handling
Hayes-Te Equipment Corp Connecticut Conveyor Division (Conn-Veyor) — Unionville
Parsons Co Inc W A (tote pans) — Durham

Mats—Newspaper
Lockwood Sons Inc Wm H — Hartford

Mattresses
Waterbury Mattress Co — Waterbury

Metal Boxes
Durham Mfg Co — Durham
Parsons Co Inc W A (tool kits) — Durham

Metal Boxes and Displays
Durham Mfg Co The (Designing & Mfg to customers' specifications) — Durham
Merriam Mfg Co (Bond, Security, Cash, Utility, Personal Files, Drawer Safes, Custombilt containers and displays) — Durham

Metal Cleaners
Apothecaries Hall Company Division — Waterbury
The Hubbard Hall Chemical Company — New Haven
Enthone Inc — Waterbury
MacDermid Incorporated

Metal Finishes
Enthone Inc — New Haven
Mitchell-Bradford Chemical Co — Milford

Metal Finishing
Hartford Industrial Finishing Co — Hartford
National Sheradizing & Machine Co — Hartford
Waterbury Plating Company — Waterbury

Metal Formings
Master Engineering Company — West Cheshire
Stanley Pressed Metal — New Britain

Metallurgists
Bridgeport Testing Laboratory Inc — Bridgeport

Metal Mouldings
Leed Co The H A — Hamden

Metal Novelties
H C Cook Co The — Ansonia

Metal Powder Products
Norwalk Powdered Metals Inc — Norwalk

Metal Products—Stampings
American Brass Company The — Waterbury
Plume & Atwood Manufacturing Co — Thomaston
Prentice Mfg Co The G E — Kensington
J H Sessions & Son — Bristol
Scovill Manufacturing Company (Made-to-Order) — Waterbury
Stanley Pressed Metal — New Britain

Metal Specialties
Excelsior Hardware Co The — Stamford
Torrington Co The — **Torrington**

Metal Spinning
Moseley Metal Crafts Inc — West Hartford

Metal Stampings
American Brass Company The — Waterbury
Better Formed Metals Inc — Waterbury
Cly-Del Manufacturing Co. — Waterbury
DooVal Tool & Mfg Inc The — Naugatuck
Excelsior Hardware Co The — Stamford
Greist Mfg Co The — New Haven
H C Cook Co The — Ansonia
Stanley Humason Inc — Forestville
Mohawk Mfg Co (threaded) — Middletown
North & Judd Manufacturing Co — New Britain
J A Otterbein Company The (metal fabrications) — Middletown
J H Sessions & Son — Bristol
Patent Button Co The — Waterbury
Plume & Atwood Mfg Co The — Thomaston
Saling Manufacturing Company — Unionville
Swan Tool & Machine Co The — Hartford
Terryville Manufacturing Co — Terryville
Wasley Products Inc — Plainville
Waterbury Companies, Inc. — Waterbury
Waterbury Lock & Specialty Co The — Milford

Meters—Gas
Sprague Meter Company — Bridgeport

Meters—Parking
Rhodes Inc M H — Hartford

Microfilming
American Microfilming Service Co. — New Haven
Cine-Video Productions Inc — Milford

Micrometers
Slocum Co The J T — Glastonbury

Milk Bottle Carriers
John P Smith Co The — New Haven

Mill Machinery
Torrington Manufacturing Company The — Torrington
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc — Waterbury

Milling Machines
Pratt & Whitney Co Inc (Keller Tracer—Controlled Milling Machines) — West Hartford
Rowbottom Machine Company Inc (cam) — Waterbury

Mill Products
Scovill Manufacturing Company (aluminum, brass, bronze, nickel silver—sheet, rod, wire, tube) — Waterbury

Mill Supplies
Wilcox-Crittenden Div North & Judd Mfg Co — Middletown

Millwork
Hartford Builders Finish Co — Hartford

Miniature Precision Connectors
Gorn Electric Co — Stamford

Minute Minders
Lux Clock Mfg Co The — Waterbury

Mirror Rosettes and Hangers
Waterbury Companies Inc — Waterbury

Mixers—Liquid
Alsop Engineering Co. — Milldale

Mixing Equipment
Easter Industries Inc — New Haven

Model Work
B & N Tool & Engineering Co (instruments and timing devices) Thomaston

Mops
Fuller Brush Co The Hartford (Advt.)

Motion Picture Equipment
Victor Animatograph Corp a div of Kalart (16mm sound and silent projectors film splicers and rewinders) Plainville

Motion Pictures
Cine-Video Productions Inc Milford

Motor—Generator Sets
Electric Specialty Co Stamford
Safety Electrical Equipment Corp New Haven

Motors—Electric Timing
Cramer Controls Corporation The Centerbrook

Motors—Hysteresis Synchronous
Beau Electronics Waterbury

Motors—Synchronous
Cramer Controls Corporation The Centerbrook
Electric Specialty Co Stamford

Moulded Plastic Products
Butterfield Inc T F Naugatuck
U S Plastic Molding Corp Wallingford
Waterbury Companies Inc Waterbury
Watertown Mfg Co The Watertown

Mouldings
Himmel Brothers Co The (architectural, metal and store front) Hamden

Moulds
Hoggston & Pettis Mfg Co The (steel) New Haven

Name Plates
Cooney Engraving Co Branford
Seton Name Plate Co (metal & plastic name plates and identification tags) New Haven

Napper Clothing
Standard Card Clothing Co The (for textile mills) Stafford Springs

Nettings
Wilcox Lace Corp The Middletown

Newspaper Mats
Lockwood Sons Inc Wm H Hartford

New Product Consultants
Business Incubation Laboratory Wilton

Nickel Anodes
Apothecaries Hall Company Division
The Hubbard Hall Chemical Company
Seymour Manufacturing Co. The Seymour
Waterbury

Nickel Silver
American Brass Company The Waterbury
Bridgeport Brass Company Bridgeport
Plume & Atwood Mfg Co The Thomaston
Waterbury Rolling Mills Inc (sheets, strips, rolls) Waterbury
Western Brass Mills Div Olin Mathieson Chemical Corp (sheet, strip) New Haven

Nickel Silver Ingot
Whipple and Choate Company The Bridgeport

Night Latches
Sargent & Company New Haven
Yale & Towne Mfg Co Inc Stamford

Nitriding
Hartford Machine Screw Company Hartford

Non-ferrous Metal Castings
Miller Company The Meriden

Nuts, Bolts and Washers
Clark Brothers Bolt Co Milldale
Hartford Machine Screw Co Div of Standard Screw Co Hartford
Torrington Co The Torrington

Office Equipment
Pitney-Bowes Inc Stamford
Underwood Corporation Bridgeport & Hartford
Wassell Organization Inc Westport

Office Printing
Kellogg & Bulkeley A Division of Connecticut Printers Inc Hartford

Offset Printing
City Printing Co. The New Haven

Oil Burners
Miller Company The (domestic) Meriden
Peabody Engineering Corp (Mechanical and/or Steam Atomizer) Stamford
Silent Gow Oil Burner Corp The Hartford

Oil Tanks
Norwalk Tank Co The (550 to 30M gals, underwriters above and under ground) South Norwalk
Whitlock Manufacturing Co The Hartford

Oils—Cutting
Anderson Oil and Chemical Company, Inc. Portland

Optical Cores & Ingots
Plume & Atwood Mfg Co The Thomaston

Otis Woven Awning Stripes
The Falls Company Norwich

Ovens—Electric
Bauer & Company Inc Hartford

Packaging—Engineering
Commerce Packaging Corp Stamford
Progressive Packaging Corp (military & commercial for domestic and export packaging, canning, crating and shipping) East Haven

Packaging & Packing
Commerce Packaging Corp Stamford
Mercer & Stewart Co The Hartford

Packing
Auburn Manufacturing Company The (leather, rubber, asbestos, fibre) Middletown
Raybestos Division of Raybestos-Manhattan Inc (Asbestos and Rubber Sheet) Bridgeport

Padlocks
Sargent & Company New Haven
Waterbury Lock & Specialty Co The Milford
Yale & Towne Mfg Co Inc Stamford

Pads—Office
The Baker Goodyear Company Branford

Paints
Tredennick Paint Manufacturing Co The Meriden

Panelyte
Leed Co The H A Hamden

Panta
Moore Special Tool Co (crush wheel dresser) Bridgeport

Paperboard
Continental Can Co., Boxboard and Folding Carton Division Montville
Federal Paper Board Co Inc New Haven
New Haven Board & Carton Co The New Haven
Robertson Paper Box Co Montville

Paper Boxes
Atlantic Carton Corp (folding) Norwich
National Folding Box Co Div Federal Paper Board Co Inc (folding) New Haven & Versailles
Mills Inc H J Bristol
New Haven Board & Carton Co The New Haven
Roberston Paper Box Co (folding) Montville

Paper Boxes—Folding and Setup
Bridgeport Paper Box Company Bridgeport
M Backers' Sons Inc Wallingford

Paper Clips
H C Cook Co The (steel) Ansonia

Paper Mill Machinery
Farrel-Birmingham Company Inc Ansonia

Paper—Shredded
Nielsen & Sons Inc John R South Windsor

Paper Tubes and Cores
Sonoco Products Co (Climax-Lowell) Div Mystic

Parallel Tubes
Sonoco Products Co (Climax-Lowell) Div Mystic

Parking Meters
Rhodes Inc M H Hartford

Parts
Hartford Machine Screw Co Div of Standard Screw Co Hartford
Scovill Manufacturing Company (ammunition, electric instrument, electrical appliance, fountain pen, instrument, lighting fixture, ordance, etc.—blanked, stamped, formed, drawn, re-drawn, forged, screw machined, headed, pointed, finished) Waterbury
Torrington Co The Torrington

Pattern-Makers
Farrel-Birmingham Company Inc Ansonia

Penlights
Bridgeport Metal Goods Mfg Co Bridgeport

Personnel Consultants
Wirth Management Company Wilton

Pet Furnishings
Andrew B Hendrix Co The New Haven

Phosphor Bronze
American Brass Company The Waterbury
Bridgeport Brass Company Bridgeport
Miller Company The (sheets, strips, rolls) Meriden
Waterbury Rolling Mills Inc (sheets, strips, rolls) Waterbury
Western Brass Mills Div Olin Mathieson Chemical Corp (sheets, strip) New Haven

Phosphor Bronze Ingots
Whipple and Choate Company The Bridgeport

Photo Engraving
Dowd Wyllie & Olson Inc Hartford
Wilcox Photo Engraving Co Inc New Haven

Photocopy Equipment and Supplies
Ludwig Inc F G Old Saybrook

Photographic Equipment
Electrical Div Olin Mathieson Chemical Corp New Haven
Kalart Company Inc Plainville

Piano Repairs
Pratt Read & Co Inc (keys and action) Ivoryton

Piano Supplies
Pratt Read & Co (keys and actions, backs, plates) Ivoryton

Pillow Blocks
New Departure Div of General Motors (ball) Bristol

Pins
CEM Company ("Spirol") Danielson
Hartford Machine Screw Co Div of Standard Screw Co Hartford
Torrington Co The (Dowel & Taper) Torrington

Pipe
American Brass Co The (brass and copper) Waterbury
Chase Brass & Copper Co (red brass and copper) Waterbury
Howard Co (cement well and chimney) New Haven

Pipe Fittings
Malleable Iron Fittings Co Branford

Pipe Plugs
Hartford Machine Screw Co Div of Standard Screw Co Hartford
Holo-Krome Screw Corporation The (countersunk) West Hartford

Pipe Plugs—Socketed
Hartford Machine Screw Co Div of Standard Screw Co Hartford
Holo-Krome Screw Corp The West Hartford

Pistols & Revolvers
Colt's Patent Fire Arms Mfg Co Inc Hartford

Plastic Bottles
Plax Corporation Bloomfield

Plastic Buttons
Frank Parizek Manufacturing Co The West Willington

Plastic Engraving
New England Engraving Co Div of Dura Plastics of New York Inc Westport
Salisbury Products Inc Lakeville

Plastic Extruders
Danielson Mfg Co The (nylon and other engineering plastics) Danielson
Jessall Plastics Div of The Electric Storage Battery Co Kensington

Plastic Fabrication
Dura Plastics of New York, Inc. Westport
Fabricon Corp Unionville
Salisbury Products Inc Lakeville

Plastic Film & Sheet Materials
Gilman Brothers Co The Gilman
Plax Corporation Bloomfield

Plastic Forming
Dura Plastics of New York, Inc. Westport

Plastic Lining Equipment
Enthone Inc New Haven

Plastic Material
Dura Plastics of New York, Inc. (sheet, rod & tube) Westport

Plastic Molders
Butterfield Inc T F Naugatuck
Conn Plastics Waterbury
Danielson Mfg Co The (nylon and other engineering plastics) Danielson
Engineered Plastics, Inc. Watertown
Plastic Molding Corporation Sandy Hook
Rogers Manufacturing Co The Rockfall
Specialty Plastics Corp (custom) Shelton
Stanley Chemical Co The East Berlin
U S Plastic Molding Corporation Wallingford
Waterbury Companies Inc Waterbury
Watertown Mfg Co The Watertown

Plastic Pipe and Fittings
Colonial Blower Co Plainville
Danielson Mfg Co The (nylon and other engineering plastics) Danielson
Enthone Inc New Haven

Plastic Printing Plates
Lockwood Sons Inc Wm H Hartford

Plastic Rod
Danielson Mfg Co The (nylon and other engineering plastics) Danielson

Plastic Tape
Danielson Mfg Co The (nylon and other engineering plastics) Danielson

Plastic Tubing
Danielson Mfg Co The (nylon and other engineering plastics) Danielson

Plastic Wire Coating Materials
Electronic Rubber Co Stamford

Plastics
Naugatuck Chemical Division United States Rubber Co Naugatuck (Advt.)

Plastics & Resins
American Cyanamid Co Plastics & Resins Div Wallingford

Plastics Machinery
Farrell-Birmingham Company Inc Ansonia

Plastics—Moulds & Dies
Crown Tool & Die Co Inc Bridgeport

Plasticrete Bloc
Plasticrete Corp Hamden, Hartford, North Haven, Waterbury, Willimantic

Platers
Acme Chromium Plating Co New Haven
Christie Plating Co Groton
Chromium Process Company The (Chromium Plating only) Shelton
Water Plating Company Waterbury

Platers' Equipment
Apothecaries Hall Company Waterbury
Enthone Inc New Haven
Lea Manufacturing Co The Waterbury
MacDermid Incorporated Waterbury

Platers Metal
Plume & Atwood Mfg Co The Thomaston

Plating
Christie Plating Co The (including lead plating) Groton
Giering Metal Finishing Inc Hamden
Superior Plating Co Bridgeport
Tec-Plate Inc Windsor Locks

Plating Processes and Supplies
Enthone Inc New Haven
Seymour Manufacturing Co. The Seymour
State Testing Laboratory Inc (plating analyses) Bridgeport

Plumbers' Brass Goods
Keeney Mfg Co The (special bends) Newington
McGuire Mfg. Co. Waterbury
Scovill Manufacturing Company Waterbury

Plumbing Specialties
Risdon Manufacturing Co John M Russell Div Naugatuck

Pneumatic Conveyors
Spencer Turbine Co., The Hartford

Pole Line Hardware
Malleable Iron Fittings Co Branford

Police Equipment
The Smith-Worthington Saddery Co Hartford

Polishing
C & E Metal Finishing Co Hartford
Mirror Polishing & Buffing Co Waterbury

Postage Meters
Pitney Bowes Inc Stamford

Potentiometers—Electronic
Bristol Company The Waterbury

Precision Machining
National Tool & Die Co Hartford

Precision Machine Tool Spindles
Whiton Manufacturing Co (for milling, grinding, boring & drilling) Farmington

Precision Manufacturing
Hartford Machine Screw Co Div of Standard Screw Co Hartford
Torrington Co The Torrington

Precision Revolving Machinery
Whiton Manufacturing Co Farmington

Precision Sheet Metal Fabrication
Milford Fabricating Co Milford

Precision Springs & Wire Forms
Rowley Spring Co Inc The Bristol

Premium Specialties
Waterbury Companies Inc Waterbury

Preservatives—Wood, Rope, Fabric
Darworth Incorporated ("Cuprinol") ("Cellu-san") Simsbury

Pressboard
Case & Risley Press Paper Co (genuine) Oneco

Press Papers
Case Brothers Inc Manchester

Presses
Farrel-Birmingham Company Inc (Hydraulic) Ansonia

Presses—Power
Pneumatic Applications Co The (modernization of presses through conversion to Wichita Air Clutch operation) Simsbury
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc Waterbury

Pressure Vessels
Norwalk Tank Co Inc The (unfired to ASME Code Par U 69-70) South Norwalk
Rolock Inc Fairfield
Whitlock Manufacturing Co The Hartford

Printing
Allied Printing Service Inc Manchester
Bussmann Press Inc New Haven
Case Lockwood & Brainard A Division of Connecticut Printers Inc Hartford
City Printing Co. The New Haven
Finlay Brothers Hartford
Heminway Corporation The Waterbury
Hildreth Press Bristol
Hunter Press Hartford
Lehman Brothers Inc New Haven
Miller-Johnson, Inc. Meriden
Taylor & Greenough Co The Wethersfield
T B Simonds Inc Hartford
A D Steinbach & Sons New Haven
The Walker-Rackliff Company New Haven

Printing Machinery
Banthin Engineering Co (automatic) Bridgeport

Printing Plates
Ads Inc Div CSW Plastic Types Inc (mats services) Rocky Hill
Lockwood Sons Inc Wm H Hartford

Printing Rollers
Chambers-Storck Company Inc The (engraved) Norwich

Printing—Silk Screen
Ad-Craft Displays, Inc. Bloomfield

Production
House Co N. E. (Assembly, Stampings, Drilling & Tapping) East Hampton

Production Control Equipment
Ripley Company Inc Middletown
Wassell Organization Inc Westport

Propellers—Aircraft
Hamilton Standard Div United Aircraft Corp (propellers and other aircraft equipment) Windsor Locks

Protective Coatings
Harrison Company The A S (Waxes) South Norwalk

Publishers
O'Toole & Sons Inc The Stamford

Pumps
Sumo Pumps Inc (Deep-well electro-submersible) Stamford
Yale & Towne Mfg Co The Stamford

Pumps—Centrifugal
Alsop Engineering Co. Milldale

Pumps—Small Industrial
Eastern Industries Inc New Haven

Punches
Hoggson & Pettis Mfg Co The (ticket & cloth) New Haven

Purchasing Service—Industrial
Hartz-Miller Associates Meriden

Putty Softeners—Electrical
Fletcher Terry Co The Forestville

Pyrometers
Bristol Co The (recording and controlling) Waterbury

Radiation—Finned Copper
Rush Manufacturing Co West Hartford
G & O Manufacturing Company The New Haven
Vulcan Radiator Co The (steel and copper) Hartford

Radiators—Engine Cooling
G & O Manufacturing Co New Haven

Ratchet Offset Screw Driver
Chapman Co J W Durham

Rayon Staple Fiber
Hartford Rayon Corp The Rocky Hill

Reamers
Atrax Company The (solid carbide) Newington
Pratt & Whitney Co Inc (All types) West Hartford
Pratt & Whitney Co Inc (all types carbide and HSS) West Hartford

Record Equipment
Wassell Organization Inc (filing equipment) Westport

Recorders
Bristol Co The (automatic controllers, temperature, pressure, flow, humidity) Waterbury

Reduction Gears
Farrel-Birmingham Company Inc Ansonia
Snow-Nabstedt Gear Corp The New Haven

Refractories
Howard Company New Haven
Mullite Works Refractories Div H K Porter Co Inc Shelton

Refrigeration
Dunham-Bush Inc West Hartford

Refrigeration Condensing Units
Brunner Division of Dunham-Bush Inc West Hartford

Research & Development
Continental Engineering Corporation Farmington
Raymond Engineering Laboratories (Electro-Mechanical) Middletown
State Testing Laboratory Inc (chemical/physical testing) Bridgeport

Resistance Wire
C O Jelliff Mfg Co The (nickel chromium, copper nickel, iron chromium, aluminum) Southport
Kanathal Corporation The Stamford

Respirators
American Optical Company Safety Products Division Putnam

Retainers
Hartford Steel Ball Co The (bicycle & automotive) Hartford

Rigid Plastic Sheet Material
Gilman Brothers Company The Gilman

Riveting Machines
Grant Mfg & Machine Co The Bridgeport
Linley Brothers Company Bridgeport
Patent Button Co The (automatic) Waterbury
Ripley Company Inc Middletown
H P Townsend Manufacturing Co The Elmwood

Rivets
Clark Brothers Bolt Co Milldale
Milford Rivet & Machine Co The Milford
Plume & Atwood Mfg Co The Thomaston
Raybestos Div of Raybestos-Manhattan Inc The (brass and aluminum tubular and solid copper) Bridgeport
Raybestos Div of Raybestos-Manhattan Inc The (iron) Bridgeport

Rivet Setting Machines
Milford Rivet & Machine Co The Milford

Rods
American Brass Company The (copper, brass, bronze) Waterbury
Bridgeport Brass Company Bridgeport
Bristol Brass Corp The (brass and bronze) Bristol
Scovill Manufacturing Company (aluminum, brass, bronze, etc.) Waterbury

Rollers—Bituminous Paving
Gabb Special Products Div E Horton & Son Company Windsor Locks

Roller Skate Wheels
Raybestos Division of Raybestos-Manhattan Inc Bridgeport

Rolling Mills & Equipment
Farrel-Birmingham Company Inc Ansonia
Fenn Mfg Co The Newington
Precision Methods & Machines Inc Waterbury
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc Waterbury

Rolls
Farrel-Birmingham Company Inc (Chilled and Alloy Iron, Steel) Ansonia

Roofing
Lurie Inc A Bloomfield

Rotary Files
Atrax Company The (carbide) Newington

Routers
Atrax Company The (solid carbide) Newington

Rubber Chemicals
Naugatuck Chemical Division United States Rubber Co Naugatuck
Stamford Rubber Supply Co The ("Factice" Vulcanized Vegetable Oils) Stamford

Rubberized Fabrics
Duro-Gloss Rubber Co The New Haven

Rubber Footwear
Goodyear Rubber Co The Middletown

Rubber Gloves
Seamless Rubber Company The New Haven

Rubber—Handmade Specialties
Seamless Rubber Company The New Haven

Rubber Latex Compounds and Dispersions
Naugatuck Chemical Division United States Rubber Co (coating, impregnating and adhesive compounds) Naugatuck (Advt.)

CONNECTICUT PRODUCTS AND SERVICES

Rubber Mill Machinery
Farrel-Birmingham Company Inc — Ansonia

Rubber—Molded Specialties
Airex Rubber Prod Corp — Portland
Associated Gaskets, Inc. — Bridgeport
Bond Rubber Corporation — Derby
Seamless Rubber Company The — New Haven

Rubber Products
Airex Rubber Prod Corp — Portland

Rubber Printing Plates
ADS Inc Div CSW Plastic Types Inc — Hartford
Lockwood Sons Inc Wm H — Hartford

Rubber Products—Mechanical
Associated Gaskets, Inc. — Bridgeport
Auburn Manufacturing Company The (washers, gaskets, molded parts) — Middletown
Seamless Rubber Company The — New Haven

Rubber—Reclaimed
Naugatuck Chemical Division United States Rubber Co — Naugatuck

Rubbers
Naugatuck Chemical Div U S Rubber Co (synthetic rubbers and latex) — Naugatuck

Rust Preventives
Anderson Oil and Chemical Company, Inc — Portland
Enthone Inc — New Haven

Rust Removers
Enthone Inc — New Haven

Saddlery
The Smith-Worthington Saddlery Co — Hartford

Safety Belts
Russell Mfg Co — Middletown

Safety Clothing
American Optical Company Safety Products Division — Putnam

Safety Fuses
Ensign-Bickford Co The (mining & detonating) — Simsbury

Safety Gloves and Mittens
American Optical Company Safety Products Division — Putnam

Safety Goggles
American Optical Company Safety Products Division — Putnam

Saw Blades—Hack
Capewell Mfg Co The — Hartford
Thompson & Son Co The Henry G — New Haven

Saw Blades—Hack & Band
Capewell Manufacturing Company — Hartford

Saws, Band, Metal Cutting
Atlantic Saw Mfg Co — New Haven
Capewell Manufacturing Co The — Hartford
Thompson & Son Co The Henry G — New Haven

Saws—Hole
Capewell Manufacturing Co The — Hartford
Thompson & Son Co The Henry G — New Haven

Sawdust
Nielsen & Sons Inc John R (graded hardwood and softwood) — South Windsor

Scissors
Acme Shear Company The — Bridgeport

Screens
Hartford Wire Works Co The (Windows, Doors and Porches) — Hartford
Norlee Aluminum Prod Corp — Bloomfield

Screw Caps
Weimann Bros Mfg Co The (small for bottles) — Derby

Screw Machines
H P Townsend Mfg Company The — Elmwood

Screw Machine Products
Accurate Screw Products Inc (B & S Swiss & Davenports) — Southington
Apex Tool Co Inc The — Bridgeport
Auto Electric Screw Machine Co Inc — Bridgeport
Bell Enterprise Inc — Deep River
Brown Manufacturing Co (up to 1½" capacity) — Plainville
Consolidated Industries — West Cheshire
Eastern Machine Screw Corp The — New Haven
Fairchild Screw Products Inc — Winsted
Garthwait Mfg Co A E (up to and incl ½") — Greist Mfg Co The (up to 1½" capacity) — New Haven
Hartford Machine Screw Co Div of Standard Screw Co (up to 5" capacity) — Hartford
Horberg Grinding Industries Inc (heat treated and ground type only) — Bridgeport
Stanley Humason Inc — Forestville
Independent Screw Company (up to and incl 1¼" capacity) — West Hartford

Screw Machine Products (Cont.)
Junior Screw Machine Products Inc — West Haven
Lowe Mfg Co The — Wethersfield
Main Screw Machine Products (davenport & automatics exclusively) — Waterbury
National Automatic Products Company The — Berlin
Nelson's Screw Machine Products — Plantsville
New Britain Machine Company The — New Britain
New Haven Screw Machine Prods Inc (up to 1½" capacity) — Milford
Newton Screw Machine Products Co — Plainville
Olson Brothers Company (up to ¾" capacity) — Plainville
Olson & Sons R P — Southington
Plume & Atwood Mfg Co The — Thomaston
Scovill Manufacturing Company — Waterbury
United Screw Machine Co — Thomaston
Waterbury Machine Tools & Products Co (Brown & Sharpe and Davenport) — Waterbury

Screw Machine Tools
American Cam Company Inc (Circular Form Tools) — Hartford
Pratt & Whitney Co Inc Reamers, Taps, Dies, Blades and Knurls) — West Hartford
Somma Tool Co (precision circular form tools) — Waterbury

Screws
Allen Manufacturing Company The — Bloomfield
American Screw Company — Willimantic
Atlantic Screw Works (wood) — Hartford
Bristol Company The (socket set and socket cap screws) — Waterbury
Clark Bros Bolt Co Inc (cap and lag) — Milldale
Hartford Machine Screw Co Div of Standard Screw Co — Hartford
Holo-Krome Screw Corporation The (socket set and socket cap) — West Hartford
Scovill Manufacturing Company — Waterbury
Superior Manufacturing Co The — Winsted
Torrington Co The — Torrington

Screws—Socket
Allen Manufacturing Company The — Bloomfield
Bristol Co The — Waterbury
Hartford Machine Screw Co Div of Standard Screw Co — Hartford
Holo-Krome Screw Corp The — West Hartford

Sealing Tape Machines
Better Packages Inc ("Counterboy," "Tapeshooter," "Big Inch") — Shelton
Derby Sealers Inc (gummed and pressure-sensitive tapes) — Derby

Screw Threads—Inserts
Heli-Coil Corp — Danbury

Seals
Russell Mfg Co (for oven doors and fire bulkheads) — Middletown

Sewing Machines
Greist Mfg Co The (Sewing Machine attachments) — New Haven
Singer Manufacturing Company The (industrial) — Bridgeport

Sharpeners
Gorn Electric Co Inc (electric knife and scissors) — Stamford

Shaving Soaps
J B Williams Co The — Glastonbury

Shears
Acme Shear Co The (household) — Bridgeport

Sheet Metal Fabrications
Lurie Inc A — Bloomfield

Sheet Metal Products
American Brass Co The (brass and copper) — Waterbury
Merriam Mfg Co (security boxes, fitted tool boxes, tackle boxes, displays) — Durham
Parsons Co Inc W A (fabricators) — Durham
Plume & Atwood Mfg Co The — Thomaston
United Manufacturing Co Division of the W L Maxson Corp — Hamden

Sheet Metal Stampings
American Brass Company The — Waterbury
American Buckle Co The — West Haven
DooVal Tool & Mfg Inc The — Naugatuck
J H Sessions & Son — Bristol
Plume & Atwood Mfg Co The — Thomaston
Scovill Manufacturing Company (aluminum, brass, bronze, copper, nickel silver, steel and other metals and alloys) — Waterbury
Terryville Manufacturing Co — Terryville

Sheet Steel
Dolan Steel Company Inc — Bridgeport

Shell Cores
Victors Brass Foundry Inc — Guilford

Shell Molding
Victors Brass Foundry Inc — Guilford

Shells
Scovill Manufacturing Company (aluminum, brass, bronze, copper, nickel silver—drawn, stamped—electric socket, screw) — Waterbury
Terryville Manufacturing Co — Terryville
Wolcott Tool and Manufacturing Company Inc — Waterbury

Showcase Lighting Equipment
Wiremold Company The — Hartford

Signals
H C Cook Co The (for card files) — Ansonia

Signs
Ad-Craft Displays, Inc. (all types, quantity only) — Bloomfield

Silk Screen Process Printing
Ad-Craft Displays Inc — Bloomfield
Norton Co R H — New Haven
Sirocco Screen prints — New Haven
Stifel & Kufta Inc — New Britain

Silk Screening on Metal
Ad-Craft Displays Inc — Bloomfield
Merriam Mfg Co (Displays and Specialties, to order) — Durham

Silverware
Wallace Silversmiths Inc — Wallingford

Simulators
Reflectone Electronics, Inc. — Stamford

Sintered Metal Products
American Sinterings Div of Engineered Plastics Inc (Powder Metal Parts) — Watertown
Raybestos Division of Raybestos-Manhattan Inc — Bridgeport

Sizing and Finishing Compounds
American Cyanamid Company — Waterbury

Slide Fasteners
G E Prentice Mfg Co The — Kensington
Scovill Manufacturing Company (GRIPPER zippers) — Waterbury

Smoke Stacks
Norwalk Tank Co The — South Norwalk

Snap Fasteners
Patent Button Co The — Waterbury
Scovill Manufacturing Company (GRIPPER snap fasteners) — Waterbury

Soap
J B Williams Co The (industrial soaps, toilet soaps, shaving soaps) — Glastonbury

Sound Equipment
Vinco Electronics Corporation — New Haven

Special Machinery
Banthin Engineering Company (complete and/or parts) — Bridgeport
Farrel-Birmingham Company Inc — Ansonia
Federal Machine & Tool Co — Bristol
Fenn Mfg Co The — Newington
Hartford Special Machinery Co The — Hartford
H P Townsend Mfg Company The — Elmwood
National Sheradizing & Machine Co (mandrels & stock shells for rubber industry) — Hartford
Swan Tool & Machine Co The — Hartford
Tucker Machine Co — New Haven

Special Parts
Fenn Mfg Co The — Newington
Greist Mfg Co The (small machines, especially precision stampings) — New Haven
Hartford Machine Screw Company Div of Standard Screw Co — Hartford
J H Sessions & Son — Bristol
Torrington Co The — Torrington

Spline Milling Machines
Townsend Mfg Co The H P — Elmwood

Spotwelding
Spotwelders Inc (aluminum, steel, magnesium, titanium & alloys) — Stratford

Spray Painting Equipment and Supplies
Lea Manufacturing Co The — Waterbury

Spring Coiling Machines
Torrington Manufacturing Co The — Torrington

Spring Presses
Townsend Mfg Co The H P — Elmwood

Spring Units
Owen Silent Spring Division American Chain & Cable Company Inc — Bridgeport

Spring Washers
Barnes Co The Wallace Div Associated Spring Corp — Bristol
Terryville Manufacturing Co — Terryville

Springs
Central Spring Co (Torsion and Double Torsion) — Terryville

Springs—Coil & Flat
Barnes Co The Wallace Div Associated Spring Corp — Bristol
Barrett Co William L — Bristol
Bristol Spring Manufacturing Co — Plainville
Foursome Manufacturing Co — Bristol
Newcomb Spring Corp The — Southington
New England Spring Mfg Co — Unionville
Peck Spring Co The — Plainville
Stanley Humason Inc — Forestville

Springs—Flat
Atlantic Precision Spring Co — Forestville
Barnes Co The Wallace Div Associated Spring Corp — Bristol
Bristol Spring Manufacturing Co — Plainville
Foursome Manufacturing Co — Bristol
Stanley Humason Inc — Forestville
New England Spring Mfg. Co. — Unionville
Peck Spring Co — Plainville

(Advt.)

Springs—Wire
Banner Spring Corporation Hartford
Barnes Co The Wallace Div Associated Spring Corp Bristol
Bernston Co J W Plainville
Bristol Spring Manufacturing Co Plainville
Colonial Spring Corporation The Hartford
Connecticut Spring Corporation The (compression, extension, torsion) Hartford
Foursome Manufacturing Co Bristol
Stanley Humason Inc Forestville
Newcomb Spring Corp The Southington
New England Spring Mfg. Co. Unionville
Peck Spring Co Plainville
D R Templeman Co (coil and torsion) Plainville

Springs, Wire & Flat
Peck Spring Co Plainville

Stamped Metal Products
American Brass Company The Waterbury

Stampings
DooVal Tool & Mfg Inc The Naugatuck
Laminated Shim Company Inc Glenbrook
Foursome Manufacturing Co Bristol
Plume & Atwood Mfg Co The (small) Thomaston
Scovill Manufacturing Company (aluminum, brass, bronze, copper, nickel silver, steel and other metals and alloys—automotive, electrical, radio, etc.—deep drawn, enameled) Waterbury
Stanley Pressed Metal New Britain

Stampings—Small
Acme Shear Co The Bridgeport
Barnes Co The Wallace Div Associated Spring Corp Bristol
Barret Co William L Bristol
Bristol Spring Manufacturing Co Plainville
Greist Manufacturing Co The New Haven
Laminated Shim Company Inc Glenbrook
Stanley Humason Inc Forestville
Wire Form Inc Milldale

Stamps
Bell-Adam Steel Stamp Co. (steel) New Britain
Hoggson & Pettis Mfg Co The (steel) New Haven
Parker-Hartford Corporation (steel) Hartford
Schwab & Company (steel) Bridgeport

Stationery Specialties
American Brass Company The Waterbury

Steel Castings
Malleable Iron Fittings Co Branford
New England Alloy Casting Corp (carbon, low alloy and stainless steel castings) Hartford
Nutmeg Crucible Steel Co Branford

Steel—Cold Rolled Spring
Barnes Co The Wallace Div Associated Spring Corp Bristol
Detroit Steel Corporation Hamden

Steel—Cold Rolled Stainless
Seymour Manufacturing Co. The Seymour
Ulbrich Stainless Steels Wallingford
Wallingford Steel Company Wallingford

Steel—Cold Rolled Strip
Detroit Steel Corporation Hamden

Steel—Cold Rolled Strip and Sheets
Wallingford Steel Company Wallingford

Steel Goods
Merriam Mfg Co (sheets products to order) Durham

Steel—Ground Flat Stock
Thompson & Son Co The Henry G New Haven

Steel Rolling Rules
Waterbury Lock & Specialty Co The Milford

Steel—Stainless Alloy and Carbon
Frasse & Co Inc Peter A Hartford

Steel Stamps
Cooney Engraving Co Branford

Stereotypes
New Haven Electrotype Div Electrographic Corp New Haven

Stop Clocks, Electric
H C Thompson Clock Co the Bristol

Storage Batteries
R A E Storage Battery Mfg Co Glastonbury

Straps, Leather
Auburn Manufacturing Company The (textile, industrial, skate, carriage) Middletown

Strip Steel
Detroit Steel Corporation New Haven
Dolan Steel Company Inc Bridgeport

Structural Mouldings
Leed Co The H A Hamden

Studio Couches
Waterbury Mattress Co Waterbury

Super Refractories
Mullite Works Refractories Div H K Porter Co Inc Shelton

Surface Metal Raceway & Fittings
Wiremold Company The Hartford

Surgical Dressings
Acme Cotton Products Co Inc East Killingly
Seamless Rubber Company The New Haven

Surgical Rubber Goods
Seamless Rubber Company The New Haven

Swaging Machinery
Fenn Mfg Co The Newington
Torrington Co The Torrington
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc Waterbury

Sweeping Compounds
Nielsen & Sons Inc John R South Windsor

Switchboards Wire and Cables
Rockbestos Wire & Cable Co Div Cerro de Pasco Corp (asbestos insulated) New Haven

Tableware—Stainless Steel
Wallace Silversmiths Inc Wallingford

Tableware—Sterling Silver
Wallace Silversmiths Inc Wallingford

Tabulating Equipment—Manual
Denominator Company Inc Woodbury
Veeder-Root Incorporated Hartford

Tanks
Acme Welding Div United Tool & Die Co West Hartford
Bigelow Company The (steel) New Haven
Comco Inc Div of Enthone Inc (steel, alloy and lined) New Haven
Colonial Blower Co (steel and alloy) Plainville
Connecticut Welders Inc (steel, alloy & lined) Wallingford
Enthone Inc New Haven
Norwalk Tank Co The South Norwalk
Rolock Inc (Alloy) Fairfield
Storts Welding Company (steel and alloy) Meriden

Tanks—Stainless Steel
Alsop Engineering Co, Milldale

Tap Extractors
Walton Company The West Hartford

Tape
Russell Mfg Co (Glass Electrical Insulating Tapes, Glass Fabrics for Plastic Moulding) Middletown

Tapes—Industrial Pressure Sensitive
Seamless Rubber Company The New Haven

Tape Machines
Better Packages Inc (Manual and electric models for case taping) Shelton
Derby Sealers Inc (manual and electric models) Derby

Taps
Hanson-Whitney Company The Hartford
Pratt & Whitney Co Inc West Hartford

Tarred Lines
Brownell & Co Inc Moodus

Telemetering Instruments
Bristol Co The Waterbury

Television—Radio
Junior Screw Machine Products Inc West Haven

Testers—Insulation Wire & Cable
Davis Electric Company Wallingford

Testers—Nondestructive, Ultrasonic
Branson Instrument Inc Stamford
Sperry Products Inc Danbury

Testing
State Testing Laboratory Inc (environmental, X-ray, tensile, bearings) Bridgeport

Textile Printing Gums
Polymer Industries Inc Springdale

Textile Processors
Amerbelle Corporation Rockville

Thermometers
Bristol Co The (recording and automatic control) Waterbury
Manning Maxwell & Moore Inc Stratford

Thin Gauge Metals
Plume & Atwood Mfg Co The Thomaston
Thinsheet Metals Co The (plain or tinned in rolls) Waterbury

Thread
American Thread Co The Willimantic
Belding Heminway Corticelli Putnam

Thread Chasers
Geometric Tool Division Greenfield Tap & Die Corp New Haven

Thread Gages
Hanson-Whitney Company The Hartford
Pratt & Whitney Co Inc West Hartford

Thread Milling Machines
Pratt & Whitney Co Inc West Hartford

Thread Repair Kits
Heli-Coil Corp Danbury

Thread Rolling Machinery
Hartford Special Machinery Co The Hartford
Mettler Machine Tool Inc New Haven
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc Waterbury

Threading Machines
Grant Mfg & Machine Co The (double end automatic) Bridgeport

Timers, Interval
A W Haydon Co The Waterbury
H C Thompson Clock Co The Bristol
Cramer Controls Corporation The Centerbrook
Rhodes Inc M H Hartford

Timing Devices
B & N Tool & Engineering Co (development and model work) Thomaston
Cramer Controls Corporation The Centerbrook
A W Haydon Co The Waterbury
Lux Clock Manufacturing Company Waterbury
Rhodes Inc MH Hartford
United States Time Corporation The Waterbury

Timing Devices & Time Switches
A W Haydon Co The Waterbury
Lux Clock Manufacturing Company Waterbury
M H Rhodes Inc Hartford

Tinning
Thinsheet Metals Co The (non-ferrous metals in rolls) Waterbury
Wilcox-Crittenden Div North & Judd Mfg Co Middletown

Tires
Armstrong Rubber Company The West Haven

Tool Bits
Thompson & Son Co The Henry G New Haven

Tool Chests
Vanderman Manufacturing Co The Willimantic

Tool Hardening
Commercial Metal Treating Co Bridgeport

Tools
B & N Tool & Engineering Co (dies, jigs, fixtures, sub-press and progressive) Thomaston
Hoggson & Pettis Mfg Co The (rubber workers) 141 Brewery St New Haven

Tools & Dies
Metropolitan Tool & Die Hartford
Moore Special Tool Co Bridgeport
Swan Tool & Machine Co The Hartford

Tools, Dies & Fixtures
Greist Mfg Co The New Haven

Tools, Dies, Jigs & Fixtures
Lyons Tool & Die (modelwork, jig boring) Meriden
Otterbein Co J A Middletown
RSV Engineering Co (gages) Wethersfield
Telke Tool & Die Mfg Co Kensington

Tools, Fixtures, Gauges
Fredericks Tool Co J F West Hartford

Totalizers
Reflectone Electronics, Inc. Stamford

Toys
Geo S Scott Mfg Co The Wallingford
Gilbert Co The A C New Haven
Gong Bell Mfg Co East Hampton
N N Hill Brass Co The East Hampton
Terryville Manufacturing Co. (stampings for) Terryville
U S Plastic Molding Corp Wallingford
Waterbury Companies Inc Waterbury

Transformers
Monarch Electric Co (Allis Chalmers) New Britain

Trucks—Commercial
Metropolitan Body Company (International Harvester Truck chassis and "Metro" bodies) Bridgeport

Truck—Lift
Excelsior Hardware Co The Stamford

Trucks—Skid Platforms
Excelsior Hardware Co The (lift) Stamford

Tube Clips
H C Cook Co The (for collapsible tubes) Ansonia
Weimann Bros Mfg Co The (for collapsible tubes) Derby

Tube Fittings
Scovill Manufacturing Company (UNIFLARE flared tube and LOXIT compression tube) Waterbury

Tubers
Standard Machinery and Davis-Standard Divisions of Franklin Research Corp Mystic (Advt.)

Tubes—Collapsible Metal
Sheffield Tube Corp The — New London

Tubing
American Brass Co The (brass and copper) — Waterbury
G & O Manufacturing Co (finned) — New Haven
Scovill Manufacturing Company (Brass and Copper) — Waterbury
Wallingford Steel Co The (stainless and super metals) — Wallingford

Tubing—Carbon and Stainless Steel
Frasse & Co Inc Peter A — Hartford

Tubing—Flexible Metallic
American Brass Co Metal Hose Branch — Waterbury

Tubing—Heat Exchanger
American Brass Company The — Waterbury
Scovill Manufacturing Company — Waterbury

Tumbling Barrels and Accessories
Nielsen & Sons Inc John R — South Windsor

Tumbling Equipment and Supplies
Esbec Barrel Finishing Corp — Byram

Tumbling Service
Esbec Barrel Finishing Corp — Meriden

Turntables
Macton Machinery Company Inc (industrial & display) — Stamford

Typewriters
Royal McBee Corp — Hartford
Underwood Corporation — Hartford

Typewriters—Portable
Underwood Corporation — Hartford

Typewriter Ribbons and Supplies
Royal McBee Corp — Hartford
Underwood Corporation — Hartford and Bridgeport

Underclearer Rolls
Sonoco Products Co (Climax-Lowell Div) — Mystic

Uniforms
Magson Uniform Co. — Kensington

Ultrasonic Equipment
Harris Transducer Corp Sub of General Instrument Corp — Woodbury
Branson Ultrasonic Corporation — Stamford

V-Belt Drives
Monarch Electric Co (Allis Chalmers) — New Britain

Valves
Jenkins Bros — Bridgeport

Valves—Solenoid
Skinner Electric Valve Div of The Skinner Chuck Co — New Britain

Vacuum Bottles and Containers
American Thermos Products Co — Norwich

Vacuum Cleaners
Electrolux Corporation — Old Greenwich
Spencer Turbine Co The — Hartford

Valves—Aircraft
Bridgeport Thermostat Div Robertshaw-Fulton Controls Co — Milford

Valves—Relief & Control
Beaton & Caldwell Mfg Co — New Britain

Valves—Safety & Relief
Manning Maxwell & Moore Inc — Stratford

Vanity Boxes
Bridgeport Metal Goods Mfg Co — Bridgeport
Plume & Atwood Manufacturing Co — Thomaston
Scovill Manufacturing Company — Waterbury

Velvets
American Velvet Co (owned and operated by A Wimpfheimer & Bros Inc) — Stonington
Leiss Velvet Mfg Co Inc The — Willimantic

Venetian Blinds
Findell Manufacturing Company — Manchester
Jennings Company The S Barry — New Haven

Ventilating Systems
Colonial Blower Company — Plainville
Ventilating Supplies Inc — Plainville

Vibrators—Pneumatic
Branford Co The (Industrial) — New Britain

Vinyl Extrusion & Moulding Compounds
Electronic Rubber Co — Stamford

Vises
Fenn Manufacturing Company The (Quick-Action Vises) — Newington
Vanderman Manufacturing Co The (Combination Bench Pipe) — Willimantic

Vise Jaws
Dery & Sons Tool & Die Co A L (gang with loading trays) — Pine Meadow

Vise Fixtures
Dery & Sons Tool & Die Co A L — Pine Meadow

Wall Paper
Stamford Wall Paper Co Inc — Stamford

Washers
American Felt Co (felt) — Glenville
Auburn Manufacturing Company The (all materials) — Middletown
Fabricon Corp — Unionville
Plume & Atwood Mfg Co The (brass & copper) — Thomaston
Saling Manufacturer Company (made to order) — Unionville
Terryville Manufacturing Co (Made to order—all metals) — Terryville

Washers—Felt
Chas W House & Sons Inc (Mills & Cutting Plant) — Unionville

Watches
E Ingraham Co The — Bristol
United States Time Corporation The — Waterbury

Washers—Precision
Laminated Shim Company Inc — Glenbrook

Water Deionizers
Penfield Mfg Co — Meriden

Water Heaters
Whitlock Manufacturing Co The (instantaneous & storage) — Hartford

Water Heaters—Electric
Bauer & Company Inc — Hartford

Waxes
Harrison Company The A S (and other protective coatings) — South Norwalk

Waxes—Floor
Fuller Brush Co The — Hartford

Webbing
Russell Mfg Co (Webbing for Safety Seat Belts—all types of webbing) — Middletown

Wedges
Saling Manufacturing Company (hammer & axe) — Unionville

Welded Products
Acme Welding Div United Tool & Die Co — West Hartford

Welding
Aircraft Welding & Mfg Co Inc (aluminum, stainless steel, magnesium) — Hartford
Ansonia Steel Fabrication Co., Inc., (steel, stainless steel and aluminum fabrication) — Ansonia
Connecticut Welders Inc (fabrication & repairs) — Wallingford
Farrel-Birmingham Company Inc — Ansonia
Industrial Welding Company (Equipment Manufacturers—Steel Fabricators) — Hartford

Welding—Lead
Connecticut Welders Inc (tanks & coils) — Wallingford
Lead Products, Inc. (tanks and fabrication) — Manchester
Storts Welding Company (tanks and fabrication) — Meriden

Welding—Lead Bricks
Lead Products, Inc. — Manchester

Welding Rods
American Brass Company The — Waterbury
Bridgeport Brass Company — Bridgeport
Bristol Brass Co The (brass & bronze) — Bristol

Welding Solder
Lead Products, Inc. (wire, bar and cakes and babbits) — Manchester

Wells
Church Co The Stephens B — Seymour

Wheel Dressers—Diamonds
Russell Inc RR — Newington

Wicks
Auburn Manufacturing Company The (felt, asbestos) — Middletown
Holyoke Heater Corp of Conn Inc — Hartford

Window & Door Guards
Hartford Wire Works Co The — Hartford
Smith Co The John P — New Haven

Wire
American Brass Company The — Waterbury
Atlantic Wire Co The (steel) — Branford
Bartlett Hair Spring Wire Co The — North Haven
Bristol Brass Corp The (brass & bronze) — Bristol
Driscoll Wire Co The (steel) — Shelton
Hudson Wire Co Winsted Div (insulated & enameled magnet) — Winsted
Platt Bros & Co The (zinc and zinc alloy wires) — Waterbury
Plume & Atwood Mfg Co The (brass, bronze, nickel silver) — Thomaston
Scovill Manufacturing Company (Brass, Bronze and Nickel Silver) — Waterbury

Wire and Cable
Continental Wire Corp (for industrial and military applications) — Wallingford
General Electric Company (for residential, commercial and industrial applications) — Bridgeport
Rockbestos Wire & Cable Co Div Cerro de Pasco Corp (all asbestos, mining, shipboard and appliance applications) — New Haven

(Advt.)

Wire Arches & Trellises
Hartford Wire Works Co The — Hartford

Wire Baskets
Rolock Inc — Fairfield
Wiretex Mfg Inc (Industrial, for acid, heat, treating and degreasing) — Bridgeport

Wire Cloth
Hartford Wire Works Co The — Hartford
C O Jelliff Mfg Co The (all metal, all meshes) — Southport
Pequot Wire Cloth Co Inc — Norwalk
Rolock Inc (Alloy) — Fairfield
Smith Co The John P — New Haven

Wire Dipping Baskets
Hartford Wire Works Co The — Hartford
John P Smith Co The — New Haven

Wire Forming Machinery
Nilson Machine Company The A H — Shelton
Torrington Manufacturing Company The — Torrington

Wire Formings
Master Engineering Company — West Cheshire
North & Judd Manufacturing Co — New Britain
Peck Spring Co — Plainville
Turner & Seymour Manufacturing Co The — Torrington

Wire Forms
Atlantic Precision Spring Co — Forestville
Banner Spring Corporation — Hartford
Barnes Co The Wallace Div Associated Spring Corp — Bristol
Bristol Spring Manufacturing Co — Plainville
Central Spring Co (short run orders) — Terryville
Colonial Spring Corporation The — Hartford
Connecticut Spring Corporation The — Hartford
Foursome Manufacturing Co — Bristol
Gemco Manufacturing Co Inc — Southington
Stanley Humason Inc — Forestville
New England Spring Mfg Co — Unionville
Peck Spring Co — Plainville
Templeman Co D R — Plainville
Terryville Manufacturing Co — Terryville
Wire Form Inc — Milldale

Wire Goods
American Buckle Co The (overall trimmings) — West Haven
Scovill Manufacturing Company (To Order) — Waterbury

Wire Partitions
Hartford Wire Works Co The — Hartford
John P Smith Co The — New Haven

Wire Products
Artistic Wire Products Inc — Taftville
Stanley Humason Inc — Forestville
Peck Spring Co — Plainville
Plume & Atwood Mfg Co The (to order) — Thomaston

Wire Reels
Mettler Machine Tool Inc — New Haven
Nilson Machine Company The A H — Shelton
Waterbury Farrel Foundry & Machine Co The Division of Textron Inc — Waterbury

Wire Rings
American Buckle Co The (pan handles and tinners' trimmings) — West Haven
Stanley Humason Inc — Forestville
Peck Spring Co — Plainville
Templeman Co D R — Plainville

Wire—Specialties
Andrew B Hendryx Co The — New Haven

Wire Springs
Carlson Spring Company (Torsion, Compression, Extension) — Berlin

Wire Straightening and Cutting Machinery
Mettler Machine Tool Inc — New Haven

Wiring Devices
Harvey Hubbell Inc — Bridgeport

Wood Scrapers
Fletcher-Terry Co The — Forestville

Woodwork
C H Dresser & Sons Inc (Mfg all kinds of woodwork) — Hartford
Hartford Builders Finish Co — Hartford

Woven Felts—Wool
Chas W House & Sons Inc (Mills & Cutting Plant) — Unionville

Yarns
Aldon Spinning Mills Corporation The (fine-woolen and specialty) — Talcottville
Ensign-Bickford Co The (jute-carpet) — Simsbury

Zinc
Platt Bros & Co The (ribbon, strip and wire) P O Box 1030 — Waterbury

Zinc Castings
Newton-New Haven Co Inc — West Haven

Zinc Die Castings
Mt Vernon Die Casting Corporation — Stamford
Stewart Die Casting Div Stewart-Warner Corp — Bridgeport

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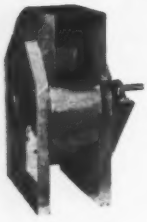

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Productive Purchasing

(*Continued from page 50*)

New procedures are needed in order to relieve Purchasing operations from detail, permitting more time for product and supplier evaluation.

Most purchasing organizations are already operating with a great deal of efficiency. The paper flow necessary to purchasing transactions has been streamlined. Still, there is much checking, writing, comparing, and counting which is time-consuming and subject to human error. Although procedural refinements are being added from time to time, this area has long been ripe for a break-through into entirely new concepts. Such a breakthrough has already come about as a result of the development of electronic data processing.

Extensive use of electronic data processing might appear to lie far in the future for most businesses, particularly small ones, because of the high cost of such sophisticated machinery. Certainly the cost could seldom be justified merely for speeding up the work of the Purchasing function alone. However, such machinery could be applied to several business functions, with the cost divided among them.

PURCHASING CAN TAKE THE LEAD by integrating much of its routine work into a total procurement system incorporating the usually separated functions of requisitioning, purchasing, and accounts payable. This has been done by several companies. Notably, one company uses electronic data processing for operating the entire procurement cycle for 30,000 stock items, completing all the necessary work in one computer hour a day. This leaves a great deal of computer time available for other uses.

Electronic data processing can make repetitive management decisions, issue the detailed instructions for carrying out the decisions, and can feed back information on the actual progress of the orders for management control purposes. Such mechanization can streamline the procurement system and permit the Purchasing operation to spend more time doing the complex decision-making which is beyond the capabilities of machines. The possibilities of such mechanized procedures are practically unlimited.

AS NEWER TECHNIQUES ARE DEVELOPED for application to the problems of purchasing, they can easily be incorporated into the framework of Productive Purchasing. Each refinement and each new development promises to help the Purchasing Agent achieve his ultimate goal—obtaining a full measure of value for every purchasing dollar spent.

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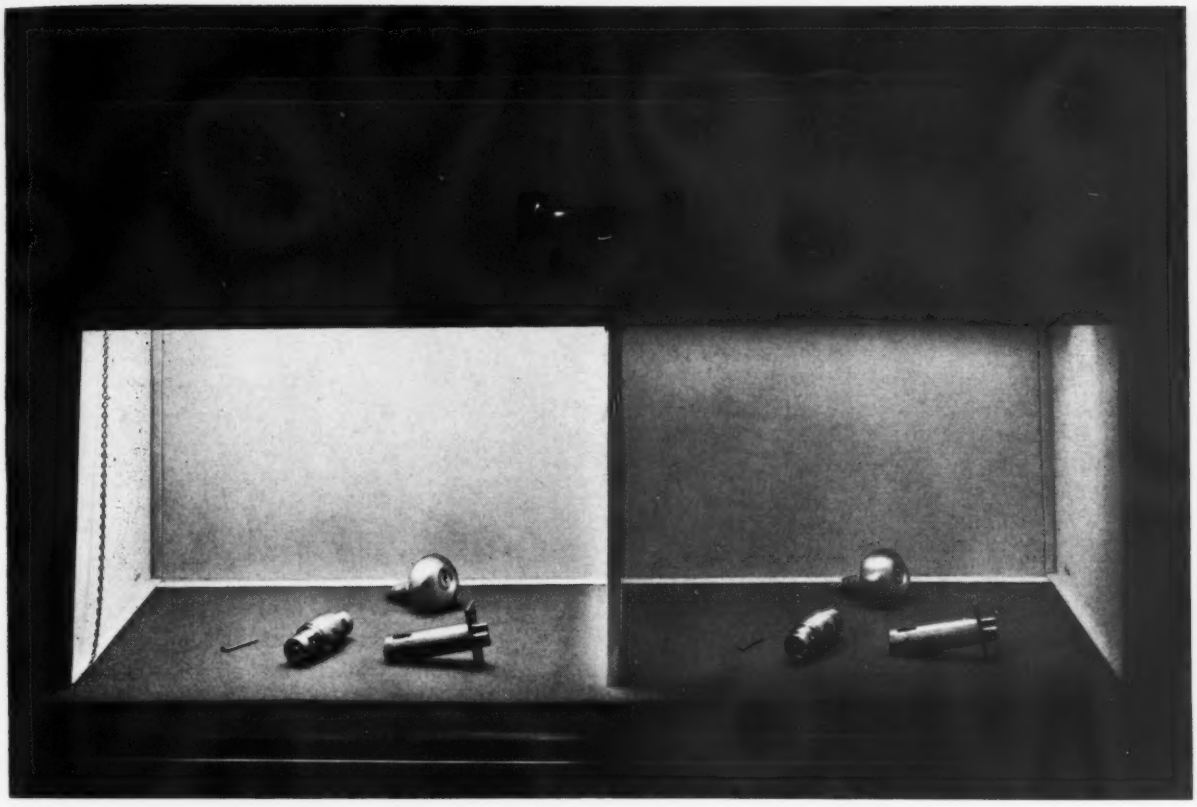

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